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Result
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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Maximum DB seq length: 2000000000
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                                                                                                                   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                               765.8
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747.2
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Match Length DB
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Gapop 10.0 , Gapext 1.0
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52.8
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Copyright (c) 1993 - 2003 Compugen Ltd.
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JOURT NEED: OURT Plate 94614 FEATURES 158925 FEATURES		COMMENT Conta		X	ACCESSION BI766766 VERSION BI766766 KEYWORDS EST	BI766766 LOCUS BI766766 DEFINITION 60305686
nttp://lmage.lln1.gov Plate: LLAM11517 row: c column: 18 High quality sequence stop: 772. Location/Qualifiers	Tissue Procurement: Life Technologies, Inc. CDNA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:	<pre>Unpublished (1999) Contact: Robert Strausberg, Ph.D. Email: cgapbs-remail.nih.gov</pre>	<pre>1 (bases 1 to 834) NIH-MGC http://mgc.nci.nih.gov/. National Institutes of Health, Mammalian Gene Collection (MGC)</pre>	human. Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	mRNA sequence. B1766766 B1766766.1 GI:15758344 EST.	BI766766 834 bp mRNA linear EST 25-SEP-2001 603056866F1 NIH_MGC_122 Homo sapiens cDNA clone IMAGE:5206217 5',

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BASE COUNT
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Best Local Similarity 98.0
Matches 818; Conservative
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/clone_11b="NIH_MGC_122"
/lab_host="DH10B"
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High quality sequence start: 24
High quality sequence stop: 550.
Location/Qualifiers
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CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Mark Watson
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
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AGENCOURT_8353983 NIH_MGC_113
5', mRNA sequence.
BQ707185
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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/db_xref="taxon:9606"
/clone="IMAGE:6278608"
/clone_lib="NIH_MGC_113"
/lab_host="DH10B (phage-resistant)"
/lab_host="DH10B (phage-resistant)"
/lab_host="DH10B (phage-resistant)"
/lab_host="Dramade by oligo-dT priming. Directionally cloned into EcoRI,XhoI sites using the following 5' adaptor: EGCACGAG(G). Library constructed by Ling Hong in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-CDNA synthesis kit (Stratagene) and Superscript II RT (Life Technologies). Note: this is a NIH_MGC_Library."

73 a 334 c 252 g 187 t 2 others
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95.68;
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CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLCM2456 row: 1 column: 13
High quality sequence stop: 565.
Location/Qualifiers
                                                                                                         Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 963)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC) Unpublished (1999)
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5', mRNA sequence
BQ671259
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Query Match
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1088 CC----TGACCCTTTGAGGCCCCCAGTGATCTCGACTCCCCCCTGGCCACAGACCCCCAG 1143
                                                                                      CCCACTCTTATCTTACAACTCCCCC-ACCGCCCACTCTCCACCTCACTAGCTCCCCAATC
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//tissue_type="epidermoid carcinoma, cell line"
//lab_host="DH10B (phage-resistant)"
/note="Organ: sallwary gland; Vector: pOTB7; Site_1: XhoI;
/site_2: EcoRI; cDNA made by oligo-dT priming.

Directionally cloned into EcoRI/XhoI sites using the
following 5' adaptor: GGCACGAG(G). Library constructed
by Ling Hong in the laboratory of Gerald M. Rubin
(University of California, Berkeley) using ZAR-cDNA
synthesis kit (Stratagene) and Superscript II RT (Life
Technologies). Note: this is a NIH_MGC Library."

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/db_xref="taxon:9606"
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ACGGGCTCGAAGAGCGATCGCAGCCCATTATGAAGTTCATCCACGACCTGGACAGGACGG
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collections (1988)
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Plate: LLAM11437 row: 1 column: 03
High quality sequence stop: 759.
Location/Qualifiers
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cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://immail.com/htm/llnLat/
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Tissue Procurement: Life Technologies, Inc.
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Contact: Robert Strausberg, Ph.D.
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                                                                                                                                                                                                                                                                                    /note-"Organ: pooled brain, lung, testis; Vector: pCMV-SPORT6; Site_1: Not1; Site_2: ECORY (destroyed); RNA source anonymous pool of 6 male brains, age range 23-27; 1 male lung, age 27; and 1 male testis, age 69. Library is oligo-dT primed and directionally cloned (ECORY site is destroyed upon cloning). Average insert size 1.8 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 021. Note: this is a NIH_MGC Library."
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/db_xref="taxon:9606"
/clone="IMAGE:5175698"
/clone_lib="NNH_MGC_115"
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5', mRNA sequence.
BM921213
                                                                                                                                                               Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies,
                                                                                                                                                                                                               Mammalia; Eutheria; Primates; Catarrhini;
1 (bases 1 to 1071)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                              found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Plate: LLAM12786 row: p column: 02
                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                           cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC Clone distribution information can
quality sequence stop: 656
Location/Qualifiers
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CACAGACCCCC-AGGGCATTGTG-TTCACTGTACTCTGTGGGCAAGGA--TGGGTCCAGA 1186
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pCMV-SPORT6; Site_1: Not1; Site_2: EcoRY (destroyed); RNA
source anonymous pool of 6 male brains, age range 23-27; 1
male lung, age 27; and 1 male testis, age 69. Library is
oligo-dT primed and directionally cloned (EcoRV site is
destroyed upon cloning). Average insert size 1.8 kb,
insert size range 1-3 kb. Library is normalized and
enriched for full-length clones and was constructed by C.
Gruber (Invitrogen). Research Genetics tracking code
.021. Note: this is a NIH_MGC Library."
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/clone_lib="NIH_MGC_115"
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/db_xref="taxon:9606"
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TITLE
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                                                                                                                                                        852 AAACTGGGCCCTAGGCCCAGGAGGTCCCCAAATGGGGAGGGGGCCCAGAAACCAAG
                                                                                                                                 252 GCTGTCCGCC---CAGGAGCCTGCCCAGGAGGAGCTGGTGGCAGAGGAGGACCAGGACCC
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                                                                                                       AAACCCCACTTTCGGGCACCTAAAAGGGGCCTGGGACCTGGCGGCAAGGAAAGCCAAAAG
GTCGGAACTGAATCCCCAGACAGAAGAAAGCCAGGATCCTGCGCCCTTTCCTGAACCGACT
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603395825F1 NIH_MGC_90 Homo
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BI871711
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National Institutes of Health, Mammalian
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                                                                                                                                                                                                                                                                             125
                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                         /organism="Homo sapiens"
/ob_xref="taxon:9606"
/olone="IMAGE:5405478"
/clone="IMAGE:5405478"
/clone_1ib="NIH_MGC_90"
/tissue_type="adenocarcinoma, cell line"
/lab_host="DH10B (phage-resistant)"
/lab_host="Organ: liver; Vector: pcMv-SpORT6; Site_1: Not1;
Site_2: Sal1; Cloned unidirectionally; oligo-dT primed.
Average insert size 1.7 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
25 a 242 c 228 g 136 t
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99.3%;
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IMAGE:5405478 5',
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TITLE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Miklos Palkovits, M.D., Ph.D.
cDNA Library Preparation: Michael J. Brownstein (NH
Toshiyuki and Piero Carninci (RIKEN)
cDNA Library Arrayed by: The I.M.A.G.E. Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                     B1596681 828 bp m 603243254F1 NIH_MGC_96 Homo sapiens
                                                                                                        DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov plate: LLAM11722 row: k column: 13 High quality sequence stop: 776.
                                                                                                                                                                                                                                                                         NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa;
Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                               (bases 1 to 828)
/clone_11b="NIH_MGC_96"
/t1ssue_type="hypothalamus"
/lab_host="DH10B"
                                       /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:5285892"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       730
                                                                                           Location/Qualifiers
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Primates;
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RESULT 8 BI870393

DEFINITION

B1870393 728 bp r 603395641F1 NIH_MGC_90 Homo sapiens

mRNA

mRNA linear EST 11-00 cDNA clone IMAGE:5405459

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BASE COUNT
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Matches 732;
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Pred. No. 7.8e-140;
0; Mismatches 30;
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VERSION
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Best Local
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CTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGGATGGTGTGCTGGC
                                         CCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTGTACTGTCAGGTGCA
                                                                                                                                                         AGTTCGGCCTCGCAGAAGTGCACCTAAAGGCCGGAAAACACGGGCTCGAAGAGCGATCGC
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B1870393
B1870393.1 GI:
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Eukaryota; Metazoa;
Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
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1 (bases 1 to 728)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, M
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Plate: LLAM12034 row: a column:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       found through the I.M.A.G.E. Consortium/LINL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information
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/lab_host="DHIOB (phage=resistant)"
/note="Organ: liver; Vector: pCwV-SPORT6; Site_1: NotI;
/note="Organ: liver; Vector: pCwV-SPORT6; Site_1: NotI;
Site_2: SalI; Cloned unidirectionally; oligo-dT primed.
Average insert size 1.7 kb. Library enriched for
full-length clones and constructed by Life Technologies
Note: this is a NIH_MGC Library."

240 c 227 g 136 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:5405459"
/clone_lib="NIH_MGC_90"
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99.0%;
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                                                                                                                                                                                                                                                                (brown@fas.harvard.edu) This sequence now available from the IMAGE consortium, for clone orders contact: info@image.llnl.gov High quality sequence stop: 412.
                                                                                                                                                                                                                                                                                                                                                 Library was constructed by Dr. Douglas Melton DNA sequencing by Washington University Genome Sequencing Center For information obtaining a clone please contact: Juliana Brown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unpublished (2000)
Contact: Douglas Melton, Klaus H. Kaestner, & Hiroshi Endocrine Pancreas Consortium
Harvard University, Howard Hughes Medical Institute
Dept of Molecular and Cellular Biology, 7 Divinity Ave
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ,M., Gibbons,M., McCann,R., Cole,R.,
, Jackson,Y. and Bowers,Y.
Endocrine Pancreas Consortium
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                                                                                                                                                                                                                                                                                                                                                                                                                                  Tel: 617-495-1812
Fax: 617-495-8557
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                                                                                                                                                                                                                                                                                                                                                                                                           Email: dmelton@biohp.harvard.edu
/noto="Organ: Pancreas; Vector: pSPORT1; Site_1: Not : Site_2: Sal 1; Starting library constructed using SuperScript Plasmid Library kit (Life Technologies). made by oligo-dT priming. Size-selected by column
                                                                                                                                                                                   /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:5672623"
                                                                                                      /tissue_type="Islets
/dev_stage="Adult"
                                                                                   /lab_host="DH10B"
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Homo sapiens
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Bummalia; Eutheria; Primates; Catarrhini; Hominid
1 (bases 1 to 1027)
Cousin, P., Billotte, J., Chaubert, P. and Shaw, P. H.
Physical map of 17913 and the genes adjacent to p
Genomics 63 (1), 60-68 (2000)
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Contact: Shaw PH
Experimental Oncology
Institute of Pathology
Rue du Bugnon 25, Lausanne, VD 101
sub_clone-ABZR ASC-BamHI PSL1180
Class: BAC subclone.
                                                                                                                                                AAAACAGATATTATTATTATTATTATTGTGACAAAATGTTGATAAATGG
940 bp mrNi
AGENCOURT_8682031 Lupski_sciatic_nerve
IMAGE:6197488 5', mrNA sequence
BOBR4731
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/clone="BAC750E14"
/clone_1ib="Human"
/note="Vector: pMOS Blue"
/note="Vector: 282 g 208
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/db_xref="taxon:9606"
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Best Local Similarity
Matches 660; Conser
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CAGCTCCGCCTCTG-CCAGGTGTCTGGGCCTGTTGGCCCTGCGGCCA-GGGTCCTCCCTGC
                                                                                                        TACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTGTACTGT
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                                                                     GTGCTGGCCCTGCGCTGCAGGAATTCTCAGCCACTGCGGCCAGTTCCCTCGGGCCC
                                                                                                                                         CAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGGATGGT
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Email: cgapbs r@mail.nih.gov
Tissue Procurement: Dr. James R. Lupski
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov plate: LLAM13607 row: j column: 17
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national Institutes of Health, Mammalian
Unpublished (1999)
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Location/Qualifiers
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325 c 255 g 190 t
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Noti; Site_2: Sall; cDNA made by oligo-dr priming.
Directionally cloned using the following adaptors:
5'-TCGACCCACGCGTCCG-3' and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /tissue_type="sciatic nerve"
/dev_stage="adult, 70 yr"
/lab_host="DH10B"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone_lib="Lupski_sciatic_nerve"
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/clone="IMAGE:6197488"
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Pred. No. 2.6e-112;
0; Mismatches 15;
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KEYWORDS
SOURCE
ORGANISM
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BM971606/c
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: paul-mccray@ulowa.edu
Tissue Procurement: Dr. M. J. Welsh, University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa
cDNA Sequencing by: Dr. M. Bento Soares, University of Iowa
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Researchers may obtain clones from Research
Genetics (www.resgen.com).
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Bonaldo, M. F., Lennon, G. and Soares, M.B.
                                                                                                                                                                                                                                                                                                                                                                                                                             sequence: 1-82,
Seq primer: M13
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/tissue_type="Lung"
/dev_stage="Adult and Fetal"
/dev_stage="Adult and Fetal"
/lab_host="DH10B (Life Technologies) (TI phage resistant)"
/lab_host="DH10B (Life Technologies) (TI phage resistant)"
/note="Organ: Lung; Vector: pT7T3-Pac (Pharmacia) with a
modified polylinker; Site_1: EcoR I; Site_2: Not I;
UI-CF-ECI is a normalized cDNA library containing the
following tissue(s): Normal lung from adult and from fetal
day 64, day 87, week 19 and week 42. The library was
constructed according to Bonaldo, Lennon and Soares,
Genome Research, 6:791-806, 1996. First strand cDNA
synthesis was primed with an oligo-dT primer containing a
Not I site. Double stranded cDNA was ligated to an EcoR I
                                                                                                                                                                                                                                                                          /clone="UI-CF-EC1-abl-p-06-0-UI"
/clone_lib="UI-CF-EC1"
                                                                                                                                                                                                                                                                                                                        /db_xref="taxon:9606"
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SOURCE
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      AUTHORS
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Eukaryota; Metazoa; Chordata; Cr. Mammalia; Eutheria; Primates; Ca 1 (bases 1 to 910)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, M
                                                                                                                                               BG110063
602279667F1 NIH_MGC_86
                                                                      Homo sapiens
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BG110063.1
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TAG_LIB-UI-CF-EC1
TAG_TISSUE-Normal Lung
and 380-383
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TAG_SEQ=AAGTGCTTAC"
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Pred. No. 2.:
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IMAGE:4367225 5',
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KEYWORDS

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                      TGGGCAAGGATGGGTCCAGAAGACCCCACTTCAGGCACTAAGAGGGGCTGGACCTGGCCG 1226
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GAGGCAAGGATGGGTCCAGAAGAGC----CATGAGGACGCAAAGAGGGGTGAACCTGAGGC
                                                                         AGTGATACTCGATCCCCCAGTGGACACAGACCGCCCAGGCATAGTGTACATGACTACTGT
                                                                                                          CAGTGATCTCGACTCCCCCTGGCCACAGACCCCCAGGGCATTGTGTTCACTGTACTCTG
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Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nih.gov
Tissue Procurement: ATCC
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM10019 row: e column: 18
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/Clone_lib="NIH_MGC_86"
/Lissue_type="osteosarcoma, cell line"
/Lib_host="DH10B (phage-resistant)"
/note="Organ: bone; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: SalI; Cloned unidirectionally; oligo-dT primed.
Average insert size 1.533 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
a 279 c 225 g 144 t
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/db_xref="taxon:9606"
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TTCCAGGTTCACTGAGGGGCCCTGGTCTCCCCACAGTCGTCCCCAGGCTGCCGGCTCCCCT
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                                                                                               ATCCGCACCCTCCCCTGGGCCCATCTCAAGGCTGCCCCCTTCCTCACCTACTTCGGACTC
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                                                         ATCCGCACCCTCCCCTGGGCCCATCTCAAGGCTGCCCCCCTTCCTCACCTACTTCGGACTC
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cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM11447 row: j column: 23
High quality sequence stop: 529.
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Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
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603038693F1 NIH_MGC_115
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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                                                                                                                                                                                                                                                                                                                                                                                           72
                                                                                                                                                                                                                                                                                                                                                                                     /note="Organ: pooled brain, lung, testis; vector: pCMV-SPORT6; Site_1: NotI; Site_2: EcoRV (destroyed); RNA source anonymous pool of 6 male brains, age range 23-27; male lung, age 27; and 1 male testis, age 69. Library is oligo-dT primed and directionally cloned (EcoRV site is destroyed upon cloning). Average insert size 1.8 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by C Gruber (Invitrogen). Research Genetics tracking code 021. Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="INAGE:5179510"
/clone_11b="NHH_MGC_115"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                             37.68;
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Pred. No. 1.7e-102;
0; Mismatches 2;
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Homo
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sapiens cDNA clone
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Best Local S
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     577;
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Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                            Tissue Procurement: Jeffrey E. Green, M.D.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                             High quality sequence start: 17
High quality sequence stop: 724.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                       found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
Plate: LLAM9767 row: p column: 20
High quality sequence start: 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
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                     Similarity
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   Conservative
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                                                                                      /clone="IMAGE:4206595"
/clone_lib="NCI_CGAP_CO24"
/clone_lib="NCI_CGAP_CO24"
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/site_2: SalI; Cloned unidirectionally. Primer: Oligo dr
Average insert size 1.6 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
a 292 c 268 g 204 t 1 others
                                                                                                                                                                                                                                          /organism="Mus musculus"
/strain="FVB/N"
/db_xref="taxon:10090"
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                     36.0%;
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Rodentia;
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 Score 493.6; DB 1
Pred. No. 2.2e-97;
0; Mismatches 84
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                                                       CCTGGAGGAATTCTCAGCCACTGCGGCCAGTTCCCTCGGGCCCCAGCTCCGCCTCTGCCA 737
                                                                                              GGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTGTACTGTCAGGTGCACTTTGATGA 617
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Search completed: May 8, 2003, 10:15:24 Job time: 1848.07 secs

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Result
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Perfect score:
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Listing first 45 summaries
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Maximum DB
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1320.2
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Match
100.0
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1: /SIDS2/gcgdata/
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Copyright (c) 1993 - 2003 Compugen Ltd.
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                 Human cDNA encodin
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Human pRO207 cDNA
CDNA encoding huma
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Human TNRL3 DNA.
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Expression vector
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AAF84738	AAF89920	AAD07385	AAA51076	AAA88731	AAZ25376	AAA51078	AAZ25378	AAA72028	AAZ77506	AAN70195	ABK40292	AAA49732	AAX56002	AAT94108	AAT18551	AAT94101	AAD30228	AAA02504	ABQ68452	ABQ52497	ABQ52496	AAA02488	AAA10594	ABN58849	ABN58848	ABN58593	ABN58591	ABN41049	AAA02484	AAZ17263	AAX53491	ABK29540	AAT22190	AAX23425	AAV18599
	Nucleotide sequenc	Human fas ligand i	Human FLINT coding			Human mature FLINT	Human mFLINT #2 nu	cDNA encoding huma	Human ovarian tumo	Streptomyces prote	Oligonucleotide pr	Human PRO207 DNA p	tumour necr	PKD1 locus	Human polycystic k	Human PKD1 gene.	Human PKD1 gene.	Human colon cancer			Oligonucleotide fo	n colon can	encoding	spliced	spliced	spliced	spliced	_				Colon adenocarcino	Human gene signatu	Mouse TNRL3 DNA.	Mus musculus tumou

ALIGNMENTS

RESULT 1
AAV18600
ID AAV18
AC AAV1
XX AV1
XX Homo
XX TREIL
KW Canc
KW Graf
CX Homc
XX 18-MAR-1997; 07-AUG-1996; 18-OCT-1996; TRELL; tumour necrosis factor related ligand; tnf; treatment; cancer; autoimmune disease; immune system; stimulation; suppression; graft rejection; ds. (BIOJ) BIOGEN INC. 07-AUG-1997; Homo sapiens tumour necrosis factor related ligand (TRELL) gene. 21-JUL-1998 AAV18600; AAV18600 standard; cDNA; 1373 12-FEB-1998 W09805783-A1 Homo sapiens (first entry) 97US-0040820. 96US-0023541. 96US-0028515. 97WO-US13945 Location/Qualifiers
1..852 /note= "tumour necrosis factor related ligand" /*tag=

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           carrier in pharmaceutical compositions to treat cancer, autoimmune diseases or immune responses to tissue grafts, or to stimulate or suppress the immune system. It is useful to screen for TRELL receptors, by labelling with a detectable label and screening compositions for binding. Agents interfering with TRELL-receptor binding can also be screened for, can then be administered, optionally with interferon- gamma, to induce cell death or treat, suppress or alter immune responses (especially involving human admoncarcinoma cells) involving a signal pathway between TRELL and its receptor. The DNA sequence can be used in gene therapy for TRELL-related disorders in mammals (especially humans), e.g. tumours, autoimmune and inflammatory diseases or inherited genetic disorders, by introducing into cells, and expressing, therapeutically effective amounts of a vector, e.g. a virus comprising a gene encoding TRELL. It may also be of use in the preparation of prepare probes for screening natural/synthetic DNAs for TRELL-encoding sequences
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Best Local
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GTGGACGGGACAGTGAGTGGCTGGGAGGAAGCCAGAATCAACAGCTCCAGCCCTCTGCGC
              GTGGACGGGACAGTGAGTGGCTGGGAGGAAGCCAGAATCAACAGCTCCAGCCCTCTGCGC
                                                                   CAGGACCCGTCGGAACTGAATCCCCAGACAGAAGAAAGCCAGGATCCTGCGCCTTTCCTG
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                                                                                                           AACCGACTAGTTCGGCCTCGCAGAAGTGCACCTAAAGGCCGGAAAAACACGGGCTCGAAGA
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DB; AAW47525.
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TTTTAAAACAGATATTATTTTATTATTATTGTGACAAAATGTTGATAAATGG
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                                                 TTCCCAAATGTGAGGGGCGAGAAACAAGACACCTCCCTTGAGAATTCCCTGTGGAT
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RESULT

ABK34881 standard; CDNA;

08-MAY-2002 (first entry)

Human cDNA encoding secreted protein

ABK34881
ID ABK
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AC ABK
AC ABK
AC O8-:
DT O8-:
DT Hum
XX
KW Hum
KW Vir
KW autt
KW autt Human; secreted protein; gene; ss; nutritional supplement; haemophilia; viral infection; bacterial infection; fungal infection; diabetes; asthm autoimmune disorder; rheumatoid arthritis; multiple sclerosis; tumour; autoimmune thyroiditis; allergic reaction; neurodegenerative disease; Alzheimer's disease; Parkinson's disease; liver fibrosis; cancer; ulcer asthma;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and conditions (e.g. asthma). They are also useful for treating neurodegenerative diseases (e.g. Alzheimer's disease, Parkinson's disease), liver fibrosis, coagulation disorders (e.g. haemophilia), inflammatory disorders (e.g. Crohn's disease) and tumours. They are also useful for tissue regeneration, for wound healing and in the treatment of burns, incisions and ulcers. The proteins are also useful for regulating haematopolesis and for treating myeloid or lymphoid cell deficiencies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to 592 polynucleotides which have been derived from a variety of human tissue sources and which encode novel secreted proteins. The polynucleotides can be used as probes for the identification and isolation of full length cDNA and genomic DNA. The polynucleotides and proteins can also be used as nutritional supplements. The proteins are useful in the treatment of various immune deficiencies and disorders such as viral infections, bacterial infections, fungal infections, autoimmune disorders (e.g. rheumatoid arthritis, multiple sclerosis, autoimmune thyroiditis and diabetes) and allergic reactions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Five hundred and ninety two polynucleotides derived from a variety of human tissue sources which encode secreted proteins, useful for treating immune deficiencies and disorders such as autoimmune disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              haematopoiesis and for treating myeloid or lymphoid cell deficiencies. Sequences ABK34863-ABK35454 represent polynucleotides of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; Page 82; 372pp; English.
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                                                     GAGCCTGCCCAGGAGGAGCTGGTGGCAGAGGAGGACCAGGACCCGTCGGAACTGAATCCC
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GCTGTCTACCTGAAGCTGGACTTGCTGGTGGATGGTGTGCTGGCCCTGCGCTGCAG 6 	25	da Vo
ATAGTCACCCGGGCTGGGCTCTACTACCTGTACTGTCAGGTGCACTTTGATGAGGGGAAG 62	545	β δ
GAGGAAGCCAGAATCAACAGCTCCAGCCCTCTGCGCTACAACCGCCAGATCGGGGAGTTT 56 	85	₽ 8
CATCCACGACCTGGACAGGACGGAGCGCAGGCAGGTGTGGACGGGACAGTGAGTG	45 25	95 64
AGTGCACCTAAAGGCCGGAAAACACGGGCTCGAAGAGCGATCGCAGCCCATTATGAAGTT 4	ŭi ŭi	gg Qy
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Best Local Similarity
Matches 1337; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence encodes a human tumour necrosis factor (TNF) and lymphotoxin homologue designated Apo-3 ligand. Apo-3 ligand has cytostatic activity. Apo-3 ligand can be used to induce apoptosis in mammalian cancer cells, to induce NF-kappaB-dependent transcription to induce JNK/SAPK-dependent responses in mammalian cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1421 BP; 281 A; 464 C; 404 G; 272 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 18;
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10-OCT-1997;
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                                            CCGCCCAGGAGCCTGCCCAGGAGGAGCTGGTGGCAGAGGAGGACCAGGACCCGTCGGAAC
                                                                                                                                                                                                                                                                                                                                                            CGGTGAGGCAGGCACAGCCCCCCCCCCCCCATGGCCCCCTTCGGACCCAGAGGCGAGGG
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                                                                                                                                      CGCTGGCCTGCCTCGTCCTGCTGGCCGTGGTCAGTTTGGGGAGCCGGGCATCGCTGT
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TGAATCCCCAGACAGAAGAAAGCCAGGATCCTGCGCCTTTCCTGAACCGACTAGTTCGGC
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Pred. No. 1.2e-272;
0; Mismatches 20;
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                                                                                  GACCTGGCGGCAGGAAGCCAAAGAGACTGGGCCTAGGCCAGGAGTTCCCCAAATGTGAGGG
                                                                                                                       CTGTACTCTGTGGGCAAGGATGGGTCCAGAAGACCCCACTTCAGGCACTAAGAGGGGCTG
                                                                                                                                                            TTGAGGCCCCCAGTGATCTCGACTCCCCCCTGGCCACAGACCCCCAGGGCATTGTGTTTCA
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GACCTGGCGGCAGGAAGCCAAAGAGACTGGGCCTAGGCCAGGAGTTCCCAAATGTGAGGG
                                                                                                             CTGTACTCTGTGGGCAAGGATGGGTCCAGAAGACCCCACTTCAGGCACTAAGAGGGGCTG
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Query Match Best Local :

Similarity

96.2%; 99.8%;

Score 1320.2; DB 2 Pred. No. 1.2e-271;

Length

0

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The present sequence is that of cDNA clone DNA30879-1152

(ATCC 209358) encoding human pRO207 (see AAY95338), which shows homology to several members of the tumour necrosis factor family, especially human lymphotoxin (23.4%). The cDNA was identified in a contained property of the family of the provided in the contained method contained with homology to human Apo-2 ligand. A claimed method for inhibiting the growth of a tumour cell comprises exposing the tumor cell to PRO179, PRO207, PRO219, PRO219, PRO221, PRO224, PRO308, PRO301, PRO526, PRO3062, PRO320, PRO309 or PRO866 (see PRO338, PRO301, PRO526, PRO362, PRO356, PRO509 or PRO866 (see CAMY95337-49), their agonists or chimeric polypeptides incorporating them. The tumour is especially a cancer selected from breast, covarian, renal, colorectal, uterine, prostate, lung, bladder and central nervous system cancer, melanoma and leukaemia. Nucleic acids encoding PRO179 etc. are used in the recombinant production
                                                                                                                                                                                                                                                                                                                                                                                                                                          14-MAY-1999;
20-JUL-1999;
26-JUL-1999;
15-SEP-1999;
15-SEP-1999;
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08-MAR-1999;
21-APR-1999;
28-APR-1999;
                                                                                                                                                                                                                                                                     Novel composition to inhibit neoplastic cell growth or itumor in mammal comprises polypeptides PRO179, PRO207, PRO221, PRO224, PRO328, PRO301, PRO526, PRO362, PRO356, PRO366
                                                                                                                                                                                                                                           Claim 20;
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breast cancer;
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A, Pitti RM,
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99US-0131445.
99US-0134287.
99US-0144758.
99US-0145698.
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ovarian cancer; renal cancer; colorectal cancer;
; prostate cancer; lung cancer; bladder cancer;
s system cancer; melanoma; leukaemia; neoplasm; ss
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99WO-US21547
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99WO-0S05028
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178..804
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                                                           CTTTGCTCCAGACCTGCCCCTCCCCTCTAGAGGCTGCCCTGGGCCTGTTCACGTGTTTTCCA
                                                                                                                                                                                                                            GTCCCGCTCGCGCTGGGCCTGGGCCTGGCCTGCCTCCTGCCTGCCTGCCTGCCTGCCTG
                 TCCCACATAAATACAGTATTCCCACTCTTATCTTACAACTCCCCCACCGCCCACTCTCCA
                       TCCCACATAAATACAGTATTCCCACTCTTATCTTACAACTCCCCCACCGCCCACTCTCCCA 1068
                                                  CTTTGCTCCAGACCTGCCCTCCCTCTAGAGGCTGCCTGGGCCTGTTCACGTGTTTTCCA
                                                                                                                                                                                          TACCTGTACTGTCAGGTGCACTTTGATGAGGGGGAAGGCTGTCTACCTGAAGCTGGACTTG
                                                                                                                                                                                                                                                                                                                                 GCGCAGGCAGGTGTGGACGGGACAGTGAGTGGCTGGGAAGGCAAGCCAGAATCAACAGCTCC
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                                                                                                                                                                                                                                             CTGGTGGATGGTGTGCTGGCCCTGCCTGGAGGAATTCTCAGCCACTGCGGCCAGT
                                                                                                                                                                                                                                                              TACCTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTG
                                                                                                                                                                                                                                                                                               AGCCCTCTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTAC
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RESULT 5
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ABK40255
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AXX ABK4
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11-MAR-1999;
11-MAY-1999;
02-JUN-1999;
22-JUN-1999;
                                                                                                                                                                                                                              15-SEP-1999;
30-NOV-1999;
01-DEC-1999;
                                                                                                                                                                                                                                                                                        28-JUL-1999;
17-AUG-1999;
31-AUG-1999;
01-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                        22-JUN-1999;
20-JUL-1999;
26-JUL-1999;
  WPI; 2002-205567/26.
P-PSDB; AAU86129.
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                                                            Marsters SA,
Watanabe CK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; PRO; benign tumour; malignant tumour; lymphoid malignancy; leukaemia; neuronal disorder; stromal disorder; blastocoelic disorder; inflammatory disorder; immune disorder; anglogente disorder; gene therapy; cytostatic; neuroprotective; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cDNA encoding human PRO207
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                                                                                                                                                                                     99WO-US28634
2000WO-US00219
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                                                            Pan J,
Wood WI;
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99US-146222P.
99US-149395P.
99US-151689P.
99WO-US20111.
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99WO-US28313.
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990S-133459P
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                                                                               Godowski PJ,
LRM, Roy MA,
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                                                                             Gurney
Smith
                                                                               V,
                                                                               Stone
                                                                           Hillan KJ;
Stone DM;
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XFFFXXX00000000000XX
                                                                                                                                       Thirty five nucleic acids encoding PRO polypeptides, useful for treating benign or malignant tumours, leukaemias and lymphoid malignancies, inflammatory, angiogenic and immunologic disorders
                                                                                                                        Claim
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                                                                                                                      Fig 3;
                                                                                                                      302pp; English.
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polypeptides and the polynucleotide sequences encoding them. The PRO polypeptides, agonists, antagonists or anti-PRO antibodies are useful for treating benign or malignant tumours (e.g. renal, kidney, bladder, breast, etc), leukaemias and lymphoid malignancies, other disorders such as neuronal, glial, astrocytal, hypothalamic, glandular, macrophagal, stromal and blastocoelic disorders, inflammatory, immune and angiogenic disorders. The polynucleotide sequences are also useful in gene therapy. ABK40254-ABK40288 encode for the human PRO polypeptides of the invention. The present invention relates to the isolation of novel human

Sequence 1353 BP; 257 A; 443 C; 389 G; 264 T; 0 other;

DB 24; Length

1353;

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밁 õ 밁 Š 밁 õ B Š 밁 δ 밁 Š 밁 Š 밁 Š 밁 δõ 밁 Š 밁 Š 밁 δÃ Query Match Best Local Matches 1322; 661 601 649 541 481 421 469 769 589 529 361 409 349 181 121 109 709 301 241 289 229 169 49 61 ب TACCTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTG GCGCCTTTCCTGAACCGACTAGTTCGGCCTCGCAGAAGTGCACCTAAAGGCCGGAAAACA TCCTCCCTGCGGATCCGCACCCTCCCCTGGGCCCATCTCAAGGCTGCCCCCTTCCTCACC TCCCTCGGGCCCCAGCTCCGCCTCTGCCAGGTGTCTGGGCTGTTGGCCCTGCGGCCAGGG CTGGTGGATGGTGTGCTGGCCTGCGTGCCTGGAGGAATTCTCAGCCACTGCGGCGAGT CTGGTGGATGGTGCTGGCCCTGCGCTGCCTGGAGGAATTCTCAGCCACTGCGGCCAGT AGCCCTCTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTAC GCGCAGGCAGGTGTGGACGGGACAGTGAGTGGCTGGGAGGAAGCCAGAATCAACAGCTCC CGGGCTCGAAGAGCGATCGCAGCCCATTATGAAGTTCATCCACGACCTGGACAGGACGGA CGGGCTCGAAGAGCGATCGCAGCCCATTATGAAGTTCATCCACGACCTGGACAGGACGGA GCGCCTTTCCTGAACCGACTAGTTCGGCCTCGCAGAAGTGCACCTAAAGGCCGGAAAACA GTCAGTTTGGGGAGCCGGGCATCGCTGTCCGCCCAGGAGCCTGCCCAGGAGGAGCTGGTG GTCAGTTTGGGGAGCCGGGCATCGCTGTCCGCCCAGGAGGCCTGCCCAGGAGGAGGAGCTGGTG TCCCTCGGGCCCCAGCTCCGGCCTCTGCCAGGTGTCTGGGCCTGTTGGCCCCTGCGGCCAGGG Similarity Conservative 96.2%; 99.8%; Score 1320.2; DB 24 Pred. No. 1.2e-271; 0; Mismatches 3; Indels 0; Gaps 828 720 768 660 708 600 648 540 588 480 528 420 468 360 408 300 348 240 288 180 228 120 168 60 108

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RRSULT 6
AAV47613
ID AAV4
XX AAV47613
AC AAV4
XX 27-0
DE TNF
XX Ss;
XX L1ss
XX L1ss
XX CDS
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                                        10-FEB-1998;
12-FEB-1997;
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Wiley SR;
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PI Wiley SR;
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PP WP1; 1998-447255/38.

DR P-PSDB; AAW29745.

XX

PT Detecting nucleic acid encoding TREPA - useful for diagnosis and protecting nucleic acid encoding TREPA in the inflammation in treatment of autoimmune disease, tumours and inflammation XX

PT Detecting nucleic acid encoding TREPA - useful for diagnosis and protecting nucleic acid encoding treative agent (TREPA), or its calcium 11; Page 123-4; 142pp; English.

XX

PS Claim 11; Page 123-4; 142pp; English.

XX

PT Detecting nucleic acid encoding TREPA or antivoreactive or genometer wound healing or tissue grafting, by promoting vascularisation, can also be used to treat or treat control that the nucleic acid for continuation of the corresponding receptor, the nucleic acid for control that the nucleic acid for the corresponding receptor, the nucleic acid for control that the nucleic acid for category and the treat them more than more conditions, and metastases (by inhibiting conditions, involving abnormal stimulation of epithelial cells (e.g. atherosclerosis), for birth control (inhibiting ovulation and placental conditions (e.g. ulcers).

XX

Squence 1236 BP; 225 A; 416 C; 358 G; 237 T; 0 other;
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Query Match 89.3%; Score 1226.4; DB 19; Length 1236; Best Local Similarity 99.5%; Pred. No. 1.1e-251; Matches 1230; Conservative 0; Mismatches 6; Indels 0; Gaps

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Best Local Similarity
Matches 1230; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present invention relates to extracellular signal molecules, particularly members of tumour necrosis factor (TNF) family molecules designated as TREPA (TNF related endothelium proliferative agent). Soluble biologically active TREPA are used to treat TREPA-associated diseases, tumours or metastases. TREPA is used for inducing angiogenesis in human for promoting wound healing and for vascularising grafted tissue for successful grafting and to promote tissue grafts. The present sequence is a cDNA clone ID #690050 encoding human TREPA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Inducing angiogenesis in mammal at desired sites for promoting wound healing, by administering soluble fragment of extracellular domain of tumor necrosis factor related endothelium proliferative agent protein
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                                                                                                    TCCAGCCCTCTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTC
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                                             TACTACCTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGAC
                                                                                         TCCAGCCCTCTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTC
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98US-0021706.
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D; Mismatches 6;
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Query Match Best Local

Similarity

60.7%;

Score 833.4; Pred. No. 4.8

4.8e-168;

DB 20;

Length 1030;

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PR 05-SEP-1997; 97US-0924634.

PR (UNIW ) UNIV WASHINGTON.

XX (Chaudhary PM;

XX (Chaudhary PM;

XX (PI 1999-205191/17.

DR PPSDB; AAM93590.

XX WPI: 1999-205191/17.

DR PPSDB; AAM93590.

XX Wew Tumor Necrosis Factor family receptor polypeptides and ligands - useful for diagnosis and treatment of prostate cancer and PT developmental or gestational abnormalities

XX Example VII; Fig 13A; 156pp; English.

XX PS Example VII; Fig 13A; 156pp; English.

XX Chudhary PM; English PM; En
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          TACCTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTG
                                                 AGCCCTCTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTAC
                                                                                         TACCTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTG
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649

CTGGTGGATGGTGTGCTGGCCCTGCCTGCGAGGAATTCTCAGCCACTGCGGCCAGT

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Wiley
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                                                                                                    20-DEC-1999;
10-MAY-2000;
                                                                                                                                                                             19-DEC-2000;
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                                                                                                                                                                                                                                                                                                                                                 "Fusion protein comprising a growth hormone leader, a leucine zipper multimerisation domain, and human TWEAK extracellular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ВP
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Query Match Best Local (Matches

631;

Conservative

0

Score 629.2; Pred. No. 1.4e 0; Mismatches

1.4e-124;

22; Length

;868 0

Gaps

0

Similarity

45.8%;

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CC member of the tumour necrosis factor (TNF) family and induces
CC anglogenesis. TWEAKR may therefore be used to screen for and develop
CC TWEAKR agonists and antagonists for the modulation of anglogenesis, to be
CC used in the treatment and diagnosis of human disease. The disorders
CC mediated by anglogenesis include ocular disorders characterised by ocular
CC neovascularisation such as diabetic retinopathy, neovascular glaucoma,
CC retinoblastoma, retinopathy of prematurity, retrolental fibroplasia,
CC rubeosis, uveitis, macular degeneration and corneal graft
CC neovascularisation, and inflammatory diseases such as arthritis,
CC rheumatism and psoriasis. Other treatable diseases include malignant and
CC metastatic conditions such as sarcomas and carcinomas, benign tumours and
CC preneoplastic conditions, myocardial anglogenesis, haemophilic joints,
CC scleroderma, vascular adhesions, atherosclerotic plaque
CC neovascularisation, telangiectasia, wound granulation, coronary
CC atherosclerosis, peripheral atherosclerosis and ischaemia.
     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                   pDC409-L2-TWEAK, which encodes a fusion protein comprising a growth hormone leader, a leucine zipper multimerisation domain, and the extracellular domain of human TWEAK. The fusion protein was used in the isolation of human TWEAK receptor (TWEAKR)-expressing clones from a COS call human CDNA library. The TWEAK protein is a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Modulating angiogenesis in a mammal for treating diseases mediated by angiogenesis, e.g. solid tumours and vascular deficiencies of cardiac peripheral tissue, by administering antagonist or agonist of TWEAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The sequence represents a DNA from the expression vector pDC409-LZ-TWEAK, which encodes a fusion protein comprisi
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DB; AAU03499.
     898 BP;
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C; 267 G; 178 T; 0 other;
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                     CTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTG
                                                                                                              CCTCTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTAC
                                                                                                                                                              CAGGCAGGTGTGGACGGGACAGTGAGTGAGTGGCAGGAGGCAGAATCAACAGCTCCAGC
CTCGGGCCCCAGCTCTGCCCAGGTGTCTGGGCTGTTGGCCCTGCGGCCAGGGTCC
                                                                                                                                                                                     CAGGCAGGTGTGGACGGACAGTGAGTGGCTGGGAGGAAGCCAGAATCAACAGCTCCAGC
                                                                                                                                                                                                                     GCTCGAAGAGCGATCGCAGCCCATTATGAAGTTCATCCACGACCTGGACAGGACGGAGCG
                                                                                                                                                                                                                                                                 CCTTTCCTGAACCGACTAGTTCGGCCTCGCAGAAGTGCACCTAAAGGCCGGAAAACACGG
                                                                                                                                                                                                           GCTCGAAGAGCGATCGCAGCCCATTATGAAGTTCATCCACGACCTGGACAGGACGGAGCG
                                                                                                                                                                                                                                                                                                    AGTTTGGGGAGCCGGGCATCGCTGTCCGCCCAGGAGCCTGCCCAGGAGGAGCTGGTGGCA 309
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RESULT 10
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                    The sequence is that encoding mouse tumour necrosis factor related cliqued (TRELL). TRELL or active fragments can be included with a carrier in pharmaceutical compositions to treat cancer, autoimmune clisases or immune responses to tissue grafts, or to stimulate or csuppress the immune system. It is useful to screen for TRELL receptors, by labelling with a detectable label and screening compositions for binding. Agents interfering with TRELL-receptor binding can also be screened for, can then be administered, optionally with interferon- gamma, to induce cell death or creat, suppress or alter immune responses (especially involving human csuppress or alter immune responses (especially involving human csuppress or alter immune responses (especially humans), e.g. tumours, carthated disorders in mammals (especially humans), e.g. tumours, cautoimmune and inflammatory diseases or inherited genetic disorders, by introducing into cells, and expressing, therapeutically effective amounts of a vector, e.g. a virus comprising a gene encoding TRELL.

It may also be of use in the preparation of prepare probes for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18-MAR-1997;
07-AUG-1996;
18-OCT-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tumour necrosis factor related ligand - useful for, cancer, auto-immune disease and immune responses to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1998-145619/13
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(UYGE-) UNIV GENEV
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAV18599
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pages 45-46; 69pp;
     natural/synthetic
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This invention describes isolated Tumor Necrosis Factor (TNF) family receptor polypeptides: APO4, APO6 and APO9 or their active fragments, and isolated TNF related ligands 1 and 3 (TNRL1 and TNRL3) or their active fragments. APO4 is useful for diagnosing prostate cancer by determining levels of APO4 is useful for diagnosing prostate cancer by determining levels of APO4 in an individual. Prostate cancer can also be treated using APO4 selective binding agents linked to a therapeutic molety. APO4 polypeptides are also useful for identifying selective binding agents, useful in diagnosis/treatment of disease by binding of agents to the polypeptide/active fragment which is extracellular, or expressed on the cell surface. The binding is preferably performed in vivo. APO4 polypeptides/active fragments are also useful for screening for agonists and antagonists by binding and observing the changer in APO4 activity. Effective pharmacological agents useful in diagnosis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tumour necrosis factor receptor; signal transducer molecule; TNF; APO4 developmental abnormality; gestational abnormalitity; prostate cancer; APO6; APO8; APO9; TNRL-1; TNRL-3; diagnosis; treatment; therapy; diseacytoplasmic domain; immunogen; antibody preparation; breast carcinoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Example VII; Fig 13B; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New Tumor Necrosis Factor family receptor polypeptides and ligands useful for diagnosis and treatment of prostate cancer and developmental or gestational abnormalities
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TNF; APO4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ę,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1023
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ARTESULT 12
AATT22190
ID AATT22
XX AATT22
XX AATT22
XX 27-AU
DT 27-AU
DX Human
XX Gene
KW human
KW cell

AAT22190

AAT22190 standard;

CDNA

ç mRNA;

282 дB

Human gene signature HUMGS03761

entry!

Gene signature; messenger RNA; mRNA; relative abundance; human; cloning; mapping; non-biased library; diagnosis; cell typing; abnormal cell function; ss.

detection;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               treatment of disease are also identified using APO4 polypeptides/active fragments and APO4 signal transducer molecules that specifically interact with a cytoplasmic domain of APO4 and detecting a change in level of APO4 activity. The method is performed in vivo or in vitro. APO polypeptides are all useful as immunogens for preparing antibodies. APO4 is also useful for diagnosis/treatment of developmental or gestational abnormalities. APO8 was transfected to human breast carcinoma cell line MCF-7, and induced apoptosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
601
                       820
                                                541
                                                                         760
                                                                                                  481
                                                                                                                                                  421
                                                                                                                                                                           640
                                                                                                                                                                                                  361
                                                                                                                                                                                                                           580
                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                             460
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                                                                                                                                                                                                                                                                                                                                                                               400
                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                               340
                                                                                                                          700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 220 CTGGCCGTGGTCAGTTTGGGGAGCCGGGCATCGCTGTCCGCCCAGGAGCCCTGCCCAGGAG 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        y Match 37.8%;
Local Similarity 87.3%;
hes 569; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTCCTCACCTACTTCGGACTCTTCCAGGTTCACTGAGGGGCCCTGGTCTCCC
                                                             CGGCCAGGGTCCTCCCTGCGGATCCGCACCCTCCCCTGGGCCCATCTCAAGGCTGCCCCC
                                                                                                                                                  CTGGACTTGCTGAACGGTGTGCCTGGCCTGCCTGCCTGGAAGAATTCTCAGCCACA
                                                                                                                                                                                                 GGGCTCTACTACCTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAG
                                                                                                                                                                                                                                                  CGGAAGGCGCGCGCCCCAGCTATTGCAGCCCATTATGAGGTTCATCCTCGGCCAGGA
                                                                                                                                                                                                                                                                                                                                                                 CGGAAAACACGGGCTCGAAGAGCGATCGCAGCCCATTATGAAGTTCATCCACGACCTGGA
                                                                                                                                                                                                                                                                                                                                                                                                      CAGGATGTGGTACCTTTCTTGGAACAACTAGTCCGGCCTCGAAGAAGTGCTCCTAAAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                   CAGGATCCTGCGCCTTTCCTGAACCGACTAGTTCGGCCTCGCAGAAGTGCACCTAAAGGC
TTCCTAACCTACTTTGGACTCTTTCAAGTTCACTGAGGGGGCCTTGCTCTCCC
                                                CGGCCAGGGTCTTCCCTTCGGATCCGCACCCTCCCCTGGGCTCATCTTAAGGCTGCCCCC
                                                                                                  GCAGCAAGCTCTCCTGGGCCCCAGCTCCGTTTGTGCCAGGTGTCTGGGCTGTTGGCGCTG
                                                                                                              GCGGCCAGTTCCCTCGGCCCCAGCTCCGCCTCTGCCAGGTGTCTGGGCTGTTGGCCCTG
                                                                                                                                                                         CTGGACTTGCTGGTGGATGGTGTGCTGGCCTGCGCTGGCGAGGAATTCTCAGCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BP; 139 A; 210 C; 203 G; 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 519.2; I
Pred. No. 3.4e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .4e-101;
les 83;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 701;
652
                       871
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                              399
                                                                         819
                                                                                                                                                  480
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                                                                                                                                                                                                                                                                                                                             519
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RESULT 13
ABK29540
ID ABK29
XX
AC ABK29
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                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A single-stranded DNA (or its complementary strand or the corresp. double-stranded DNA) which comprises one of the 7837 "GS" sequences given in AART19001-T26837 and which is able to hybridise to part of human genomic DNA, cDNA or mRNA is claimed. The GS (Gene Signature) sequences were obtained from 3'-directed cDNA libraries prepared from various human tissues; synthesis of cDNA wis initiated from the 3'-end of mRNA by using poly(T) as the sole primer. Since the 3'-untranslated sequence is unique to a particular mRNA species, almost all the 3'-oriented cDNAs hybridise with specific mRNAs. Each library is constructed so as to reflect accurately the relative abundance of different mRNAs in the particular tissue from which it was derived. The appearance frequency of a given GS in a CDNA library can be accurated from the GS.
                                                                                                                                                                                                                   1290
                                                                                                                                                                                                                                                                                                                                                                                              1111 GATCTCGACTCCCCCCTGGCCACAGACCCCCAGGGCATTGTGTTCTACTGTACTCTGTGGG 1170
   ABK29540;
                                  ABK29540 standard;
                                                                                                                                                                                                                                                                                                                                            1171 CAAGGATGGGTCCAGAAGACCCCACTTCAGGCACTAAGAGGGGGCTGGACCTG-GCGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; Page 1067; 2245pp; Japanese.
                                                                                                                                                                                                                                                                                  1230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             determined (esp. using primers and probes derived from the sequences) as a means of diagnosing abnormal cell function recognising different cell types.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Identifying gene signatures in 3'-directed human cDNA library -
for diagnosis of abnormal cell function, by preparing cDNA that
reflects relative abundance of corresp. mRNA in specific human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1995-206931/27.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12-NOV-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11-NOV-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUN-1995.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W09514772-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matsubara K, Okubo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (MATS/) MATSUBARA K.
(OKUB/) OKUBO K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                   181
                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                  ۳
                                                                                                                                                                                                                                                              GAAGCCAAAGAGACTGGGCCTAGGCCAGGAGTTCCCAAATGTGAGGGGCGAGAAACAAGA 1289
                                                                                                                                                                                                                                                                                                              TTGTGACAAAATGTTGATAAATGG 1373
                                                                                                                                                                                 CAAGCTCCTCGCTTGAGAATTCCCTGTGGATTTTTAAAAACAGATATTATTTTTTNTNATTA
                                                                                                                                                                                                    CAAGCTCCTCCCTTGAGAATTCCCCTGTGGATTTTTAAAACAGATATTATTATTATTATTA 1349
                                                                                                                                                                                                                                              GAAGCCAAAGAGACTGGGCCTAGGCCAGGAGTTCCCCAAATNTGAGGGGCGAGAAACAAGA
                                                                                                                                                                                                                                                                                                                                                                             GATCTCGACTCCCCCTGGCCACAGACCCCCAGGTCATTGTGTTCACTGTACTCTGTGGG
                                                                                                                TTGTGACAAAATGTTGNTAAATGG 264
                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP; 80 A; 62 C; 69 G; 66 T; 5 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         93JP-0355504.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94WO-JP01916
                                CDNA; 195
                                                                                                                                                                                                                                                                                                                                                                                                                                                               17.9%;
97.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 245.4; DB 16;
Pred. No. 5.3e-43;
0; Mismatches 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               from the GS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                              1229
                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                              60
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밁 Q

121

TAGGCCAGGAGTTCCCAAATGTGAGGGGCGAGAAACAAGACAAGCTCCTCCCTTGAGAAT

180

TAGGCCAGGAGTTCCCAAATGTGAGGGGCGAGAAACAAGACAAGCTCCTCCCTTGAGAAT 1309

밁 Š 멍 Q

61

Query Match Best Local Similarity Matches 194; Conserv

Conservative

<u>,,</u>

Score 193.4; DB 24; Pred; No. 5.7e-32; 0; Mismatches 1;

Indels Length 195;

0

Gaps

0

14.18; 99.58;

QΥ

1310 TCCCTGTGGATTTTT

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The invention relates to an isolated polynucleotide (I) 'encoding a collopuration (II) comprising a portion of a colon tumour protein. A new collipse (III) that hybridises to (I) is useful for determining the presence of a cancer in a patient. (II) or antigen corporating cells expressing (I) are useful for stimulating and/or expanding T cells specific for a tumour protein, by contacting T cells with (I), (II) or antigen-presenting cells that express (I). (I), (II), (II), or antigen presenting cells that express (II) are useful for treating colon cancer in a patient by incubating CD4+ and/or CD8+ T cells isolated from a patient with (I), (II), or antigen presenting cells that express (II), so that T cells proliferate, and administering to the patient an effective amount of the proliferated T cells, thus inhibiting the colon cancer in the patient. A new composition is useful for stimulating an immune response in a patient. (I) or (II) is useful in vaccines and pharmaceutical compositions for prevention and treatment of colon cancer and for the diagnosis and monitoring of the cancers. (I).

(II) or an antibody against (II) is useful as a probe or primer for nucleic acid hybridisation, and in the design and preparation of ribozyme molecules for inhibiting expression of (II) in tumour cells. ABK29475- the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Colon adenocarcinoma-specific cDNA
Sequence 195 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1; Page 133; 211pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                colon cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New isolated polynucleotide encoding a polynucleotide encoding a polynucleon tumour protein, for detection,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Meagher MJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 09-JUN-2000; 2000US-210667P.
22-NOV-2000; 2000US-252614P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       07-JUN-2001; 2001WO-US18574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200196389-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20-DEC-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (CORI-) CORIXA CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    colon tumour protein,
lon cancer ·
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2002-098052/13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    colon adenocarcinoma; colon cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         King GE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
 49
 A; 51 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ۲
58 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Secrist H;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          #66
 37 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a polypeptide comprising a portion on, diagnosis and therapy of human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tumour; gene;
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181

TCCCTGTGGATTTTT

195

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The specification describes antisense oligonucleotides (AAX52869-X55271) CC directed against at least 2 mRNAs selected from target genes, coding and directed against at least 2 mRNAs selected from target genes, gene common coding regions of RNAs corresponding to target genes, gene coding regions, genomic flanking regions, intron-exon borders, the common coding regions and all segments of RNAs encoding proteins associated with one coding regions and all segments of RNAs encoding proteins associated with one common described from sequences AAX55272-74. These multiple target coligonucleotides (specifically AAX5510-271) can be used for the coligonucleotides (specifically AAX55
                              Query Match
Best Local Similarity
           Matches
                                                                                                Sequence 114955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Page 37; 120pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New antisense oligonucleotides used in treatment of, e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           acute asthma; allergy; asthma; impeded respiration; respiratory distress syndrome; pain; cystic fibrosis; pulmonary hypertension; pulmonary vasoconstriction; emphysema; chronic obstructive pulmonary disease; leukemia; lymphoma; carcinoma; colon cancer; breast cancer; lung cancer; pancreatic cancer; hepatocellular carcinoma; kidney cancer; melanoma; hepatic metastasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antisense oligonucleotide; multiple target; antisense treatm impaired respiration; inflammation; lung disease; pulmonary vasoconstriction; inflammation; allergic rhinitis; acute asthma; allergy; asthma; impeded respiration;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09-JUN-1998;
17-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (UYEC-) UNIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25-MAR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9913886-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             prostate cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human adenosine Al receptor antisense oligonucleotide fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAX53491;
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         182;
                                                                                                                                             metastasized
         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EAST CAROLINA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98US-0093972
97US-0059160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98WO-US19419
                                                                                                BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             88.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DNA; 114955
                                                                                              6071 A; 29417 C;
                              5.1%;
32.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        entry)
                                                                                                                                             ç
                                                                                                                                             the
    58;
                                                                                                                                      lungs, including breast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         English.
                            Score 70.4; DB 20
Pred. No. 3.6e-05;
       Mismatches 316;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΒP
                                                                                         36712 G; 21328 T; 21427 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           melanoma; hepatic metastasis;
                                               20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              antisense treatment;
    Indels
                                            Length
                                                                                                                                        and
                                                                                                                                    prostate cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pulmonary
  0;
  Gaps
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RESULT 15
AAZ17263
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detection; mapping; tissue typing; profiling; forensic; cancer;
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Search completed: May 8, 2003, 07:30:46
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CC comprising the sequences given in AAZI2532 to AAZI779. Also described is CC a method of detecting differentially expressed genes correlated with the CC cancerous state of a mammalian cell, comprising detecting at least one CC differentially expressed gene product in a test sample from a cell CC suspected of being cancerous, where the gene product is encoded by one CC of the 5248 polynucleotide sequences given in AAZI2532 to AAZI779. The CC polynucleotides can be used as a source of primers and probes, which can be used for a variety of purpose, e.g. detection of expression levels, CC mapping, tissue typing or profiling, forensics, genetic analysis and CC can be used for raising antibodies for experimental, diagnostic and CC can be used for raising antibodies for experimental, diagnostic and CC carrays for diagnostics (which may be used to determine function of an CC coccls (e.g. to identify abnormal or diseased tissue in a human, to CC cancer). The polynucleotides of the invention are especially used in the CC cancer). The polynucleotides of the invention are especially used in the CC cancer. The polynucleotides can also be used to screen for CC peptide analogues and antagonists.
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Jones WL. Kassam A. Kennedy GC. Kita D. Labat
Lamson G. Leshkowitz D. Pot D. Randazzo F. Re
Stache-Crain B. Sudduth-Klinger J. Williams LT;
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Kita D, Labat I;
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ALIGNMENTS

AUTHORS	REFERENCE	ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION	DEFINITION	LOCUS	RESULT 1 AX201324
Ashkenazi,A.J., Goddard,A., Godowski,P.J., Gurney,A.L., Hillan,K.J., Marsters,S.A., Pan,J., Pitt1,R.M., Roy,M.A., Smith,V., Stone,D.M., Watanabe,C.K. and Wood,W.I.	EUKATYOTA; MeTAZOA; CHOYGATA; CTANIATA; VETTEDZATA; EUTELEOSTOMI; Mammalla; EUTHEYIA; PTIMATES; CATAITHINI; HOMINIdae; HOMO. 1 (bases 1 to 1353)	Homo sapiens	human.		AX201324.1 GI:15391154	AX201324 ,	Sequence 3 from Patent WO0153486.	AX201324 1353 bp DNA linear PAT 30-AUG-2001	

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Homo sapiens

Eukaryota; Metazoa; Chordata; C
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Marsters; S.A., Sheridan, J.P., P
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Homo sapiens Apo3/DR3 ligand
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      /gene="APO3L"
/function="binds to
Apo3/DR3"
/note="TNF homolog"
                                                    /gene="APO3L"
58. .807
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/codon_start=1
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/db_xref="GI:3108231"
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ARRAIAANYEVHPRPGQDGAQAGVDGTVSGWEEARINSSPLRYNRQIGEFITYRAGL
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Homo sapiens

Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1306)

Chicheportiche, Y., Bourdon, P.R., Xu, H., Hsu, Y.M., Scott, H.,

Hession, C., Garcia, I. and Browning, J.L.

TWEAK, a new secreted ligand in the tumor necrosis factor family
                                                                                                                                                                                                                                                           J. Biol.
98070415
                                                                                                                                                                                                     2 (bases 1 to 1306)
Bourdon, P., Hession, C.,
Direct Submission
                                                                                                                                                                               Submitted (14-OCT-1997)
Cambridge, MA 02142, USA
                                                                                                                                                                                                                                                                                                                                                                                                                 AF030099.1 GI:2707218
                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens TWEAK mRNA, AF030099
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                                                  codon not verified
                                                                                                                                                                  Location/Qualifiers
/protein_id="AAC51923.1"
/db_xref="GI:2707219"
                       /codon_start=1
/product="TWEAK"
                                                                                                                /db_xref="taxon:9606"
/chromosome="17"
                                                            /note="ligand in
                                                                          tissue_type="tonsil" 18. .767
                                                                                                     /map="17p13"
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                                                       GTGGTCAGTTTGGGGAGCCGGGCATCGCTGTCCGCCCAGGAGCCTGCCCAGGAGGAGCTG
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nilarity 99.5%;
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                                                                                                                                                        Clone distribution: MGC clone distribution information can through the I.M.A.G.E. Consortium/LLNL at: http://image.lln Series: IRAL Plate: 30 Row: p Column: 5
This clone was selected for full length sequencing because passed the following selection criteria: matched mRNA gi: 4
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   web site: "http://www.nisc.nih.gov/
Contact: nisc_mgc@nhgri.nih.gov
Shevchenko,Y., Wetherby,K.D. Beckstromerg,S.M.,
Benjamin,B. Blakesley,R.W. Bouffard,G.G. Brinkley,C., Brooks,S.,
Dietrich,N.L., Guan,X., Gupta,J., Ho,S.-L., Karlins,E., Legaspi,R.,
Lim,M., Maduro,Q.L., Masiello,C., Mastrian,S.D., McCloskey,J.C.,
McDowell,J., Pearson,R., Snyder,B., Stantripop,S., Thomas,P.J.,
Tiongson,E.E., Touchman,J.W., Tsurgeon,C., Vogt,J.L., Walker,M.A.,
Zhang,L.-H. and Green,E.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Louis Staudt
Tissue Procurement: Louis Staudt
cDNA Library Preparation: Rubin Laboratory
cDNA Library Arrayed by: The I.M.A.G.E. Cor
DNA Sequencing by: National Institutes of F
Sequencing Center (NISC),
Gaithersburg, Maryland;
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
1 (bases 1 to 1651)
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Submitted (07-DEC-2001) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MGC.
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Contact: MGC help de
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GSRASLSAQEEAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTR
ARRAIAAHYEVHPRPGQDGAQADGGYTTCLRP"
1 517 c 481 g 309 t
                                                                                                                                                                                                                                                                                                                                                                                                         /product="Similar to tumor necrosis superfamily, member 12" /protein_id="AnH)9047.1" /db_xref="GI:17512139"
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/db_xref="taxon:9606"
/clone="MGC:20669 IMAGE:4766071"
/tissue_type="Primary B-Cells fro
/clone_lib="NIH_MGC_48"
/lab_host="DH10B-R"_
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Wyman, D. Ye, W. J., Zimmer, A. anu "...,"

Wyman, D. Ye, W. J., Zimmer, A. anu "...,"

Direct Submission

AL Submitted (08-DEC-1999) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA

(CE 3 (bases 1 to 177703)

DRS Birren, B., Nusbaum, C., Lander, E., Ali, A., Allen, N., Anderson, S., Barna, N., Bastien, V., Bloom, T., Boguslavkiy, L., Boukhgalter, B., Comarata, J., Chang, J., Chazaro, B., Choepel, Y., Collymore, A., Cook, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Farrelra, P., FittGerald, M., Gage, D., Galagan, J., Gardyna, S., Gord, S., Grand-Pierre, N., Hagos, B., Horton, L., Hulme, W., Iliev, I., Johnson, R., Jones, C., Kamat, A., Karatas, A., Kells, C., Landers, T., Levine, R., Lindblad-Toh, K., Liu, G., MacLean, C., Macdonald, P., Major, J., Matthews, C., McCarthy, M., Meldrim, J., Meneus, L., Mihova, T., Mienga, V., Margor, T., Naylor, J., Nguyen, C., Nicol, R., Norbu, C., Norman, C.H., O'Connor, T., O'Donnell, P., O'Nell, D., Oliver, J., Peterson, K., Phunkhang, P., Pierre, N., Raymond, C., Retta, R., Rise, C., Rogov, P., Phunkhang, P., Pierre, N., Raymond, C., Retta, R., Rise, C., Rogov, P., Phunkhang, P., Pierre, N., Raymond, C., Retta, R., Rise, C., Rogov, P., Phunkhang, P., Pierre, N., Raymond, C., Schupback, R., Seaman, S., Severy, P.,
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Birren,B., Nusbaum,C.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Smith,C., Spencer,B., Stange-Thomann,N., Stojanovic,N., Talamas,J., Tesfaye,S., Theodore,J., Topham,K., Travers,M., Vassillev,H., Viel,R., VA,A., Wilson,B., Wu,X., Wyman,D., Young,G., Zainoun,J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         http://ftp.genome.washington.edu/RM/RepeatMasker.html
----- Genome Center
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
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125121 145109: contig or 100 bp
145110 145209: gap of 100 bp
145210 169458: contig of 24249 bp in length
169458: dap of 100 bp
100 bp in length
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Center clone name: 186_B_7
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99594 111049: contig of 11456 bp in length

111050 111149: gap of 100 bp

111150 125020: contig of 13871 bp in length

125021 125120: gap of 100 bp

125121 145109: contig of 1989 bp in length
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48646 48745: gap of 100 bp
48746 58277: contig of 9532 bp in length
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                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Pan.

E 1 (bases 1 to 215795)

E 1 (bases 1 to 215795)

S Akhter, N., Antonellis, A., Ayele, K., Beckstrom-Sternberg, S.M., Benjamin, B., Blakesley, R.W., Bouffard, G.G., Breen, K., Brinkley, C., Beroks, S., Dietrich, N.L., Granite, S., Gunn, X., Gupta, J., Haghlighi, P., Hansen, N., Ho, S.-L., Idol, J.R., Karlins, E., Laric, P., Lee-Lin, S.-Q., Legaspi, R., Maduro, Q.L., Maduro, V.B., Margulies, E.H., Masiello, C., Maskeri, B., Mastrian, S.D., McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R., Portnoy, M.E., Prasad, A., Schueler, M.G., Stantripop, S., Thomas, J.W., Thomas, P.J., Touchman, J.W., Tsurgeon, C., Vogt, J.L., Walker, M.A., Wetherby, K.D., Wiggins, L., Young, A., Zhang, L.-H. and Green, E.D., NISC Comparative Sequencing Initiative
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            Submitted (17-JUL-2002) NIH Intramural Sequencing Center, Grovemont Circle, Gaithersburg, MD 20877, USA
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89523
89623
105538
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequencing vector: plasmid; n/a; 100% of reads Sequencing vector: plasmid; n/a; 100% of reads Chemistry: Dye-terminator Big Dye; 100% of read Assembly program: Phrap; version 0.990319 consensus quality: 203929 bases at least Q40 Consensus quality: 20885 bases at least Q30 Consensus quality: 209181 bases at least Q20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Web site: http://www.nisc.nih.gov
Contact: nisc_zoo@nhgri.nih.gov
------ Project Information
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15740
24776
24876
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Center clone name: 145D13
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3694
8002
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30251. .39212
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/clone="RP43-145D13"
/clone_lib="RP43"
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L5740. .24775
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GTTCCCAAATGTGAGGGGGGAGAAACAAGACAAGCTCCTTCCCTTGAGAATTCCCTGTGGA
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Pred. No. 9.1e-128;
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AX180714
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                                                                      CTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTG
                                                                                                                                   CCTCTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTAC
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                        GTGGATGGTGTGCCTGCCCTGCCCTGCGAGGAATTCTCAGCCACTGCGGCCAGTTCC 711
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Sequence 1 from Patent W00145730.
AX180714 GI:15132570
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CORPORATION (US)
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/protein_id="CAC50004.1"
/protein_id="CAC50004.1"
/protein_id="CAC50004.1"
/db_xref=="Gi:15132571"
/db_xref="MATGSRTSLLLAFGLLCLPWLQEGSATSSDRMKQIEDKİEEILS
/translation="MATGSRTSLLLAFGLLCLEWLQEGSATSSDRMKQIEDKİEEILS
/translation="MATGSRTSLLLAFGLLCLEPAQEELVAEBCQDBEDQDSELVRQTEES
/translation="MATGSRTSLLLAFGLSKAVELPAQEAGAGVDGTVSGWEEA
KIYHLENEIARIKKLIGERIYTRAGLYYLYCQVHETDEGKAVYLKLDLLVDGVLALRCLEE
RINSSSPLRYNKQIGERIYTRAGLYYLYCQVHETDEGKAVYLKLDLLVDGVLALRCLEE
FSATAAASSLGPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH"
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/db_xref="taxon:32630"
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                          CGCCGGGAGCCCCTGAACTGAATCCCCAGACAGAGGAAAGCCAGGATGTGGTACCTTTC
                                           GACCAGGACCCGTCGGAACTGAATCCCCCAGACAGAAGAAAGCCCAGGATCCTGCGCCTTTC
                                                                                                GGGAGCCGGGCATCGCTGTCCGCCCAGGAGCCTGCCCAGGAGGAGCTGGTGGCAGAGGAG
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CTGAACCGACTAGTTCGGCCTCGCAGAAGTGCACCTAAAGGCCGGAAAAACACGGGCTCGA
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Eukaryota; Mettazoa; Chordata; Craniata; Vertebrata;
Eukaryota; Mettazoa; Chordata; Sciurognathi; Muridae;
1 (bases 1 to 1168)
1 (chicheportiche,Y., Bourdon,P.R., Xu,H., Hsu,Y.M., Sciurognathi; Marcia,I. and Browning,J.L.
Hession,C., Garcia,I. and Browning,J.L.
TWEAK, a new secreted ligand in the tumor necrosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                J. Biol.
98070415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (14-OCT-1997) Cell Cambridge, MA 02142, USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chicheportiche, Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          that weakly induces apoptosis
J. Biol. Chem. 272 (51), 3240
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nilarity 75.8%;
Conservative
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                                                                                                                                                                                                                                                                 /translation="VLSIGIALACLGILLLVVVSIGSWATLSAQEPSQEELTAEDRREP PELNPQTEESQDVVPFILEQLVRPRRSAPKGRKAAPRRATAAHEWHPRPGQDGAQAGV DGTVSGWEETKINSSSPLRVDRQIGEFTVIRAGLVYLYCQVHFDEGKAVYLKLDLLVN GVLALRCLEEFSATAASSPGPQLRLCQVSGLLPLRPGSSLRIRTLPWAHLKAAPFLTY FGLFQVH"

360 c 298 g 268 t
                                                                                                                                                                                                                                                                                                                                                                                 /product="TWEAK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Mus musculus"
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                                                                                                                                                                                                                                                                                                                                                      /db_xref="GI:2707221"
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                                                                                                                                                                                                                                                                                                                                                                                                                                         type="peritoneal macrophages"
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                                                                                                                                                                                              Score 614.6; DB 10
Pred. No. 3.4e-102;
0; Mismatches 219;
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Akhter N., Antonellis, A., Ayele, K., Beckstrom-Sternberg, S.M.,
Akhter N., Antonellis, A., Bouffard, G.G., Breen, K., Brinkley, C.,
Benjamin, B., Blakesley, R.W., Bouffard, G.G., Breen, K., Brinkley, C.,
Brooks, S., Dletrich, N.L., Granite, S., Guan, X., Gupta, J.,
Brooks, S., Dletrich, N.L., Granite, S., Guan, X., Gupta, J.,
Lee-Lin, S.-Q., Legaspi, R., Maduro, V.L., Maduro, V.B.,
Margulles, E.H., Masiello, C., Maskeri, B., Mastrian, S.D.,
Margulles, E.H., Masiello, C., Maskeri, B., Mastrian, S.D.,
McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R.,
Portnoy, M.E., Prasad, A., Schueler, M.G., Stantripop, S., Thomas, J.W.,
Thomas, P.J., Touchman, J.W., Tsurgeon, C., Vogt, J.L., Walker, M.A.,
Wetherby, K.D., Wiggins, L., Young, A., Zhang, L.-H. and Green, E.D.
NISC Comparative Sequencing Initiative
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be preserve
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Consensus quality: 146066 bases at least Q40
Consensus quality: 147748 bases at least Q20
Consensus quality: 14824 bases at least Q20
Insert size: 151000; agarose-fp
Insert size: 152453; sum-of-contigs
Quality coverage: 8.80x in Q20 bases; agarose-fp
Quality coverage: 8.80x in Q20 bases; sum-of-contigs
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Contact: nisc_zoo@nhgri.nih.gov
----- Project Information
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Center clone name: 045D24
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/note="assembly_fragment
clone_end:T7
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73870 90859
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/db_xref="taxon:9913"
/clone="RP42-45D24"
/clone_lib="RP42"
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90960. .111428
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111428: contig of 20469 bp in length
111528: gap of unknown length
153553: contig of 42025 bp in length.
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                                                                                                                                                                                                                                                                                                                                                           133; Indels 64; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                           1107 others
                                                  27524
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	COMMENT	AUTHORS TITLE	TITLE			AUTHORS	REFERENCE	VERSION KEYWORDS SOURCE ORGANISM	DEFINITION	RESULT 11 AC069459/c	Db 27897	Оу 1369	Qy . 1309 'Db 27837 '	Oy 1250 on the control of the contro	ОУ 1190 о рь 27730 о	Oy 1130 o	Qy 1070 of the control of the contro	Qy 1010 (
Center: Baylor College of Medicine Center code: BCM Web site: http://www.hgsc.bcm.tmc.edu/ Contact: hgsc-help@bcm.tmc.edu Center project Information Center project name: MAFO	Submitted (31-MAY-2000) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA On Jun 25, 2001 this sequence version replaced di:12621364.		npublished	Massey, E., McLedd, M.P., Mei, G., Moore, S., Morgan, M., Morits, S., Neal, D., Nelson, A., Nguyen, R., Nguyen, N., Oguh, M., Parish, B., Perez, L., Reiter, D., Say, J., Shen, H., Vasquez, L., Watlington, S., Williamson, A., Wrensford, G., Zhou, X., Bouck, J., Hodgson, A., Muzny, D.M., Rives, M., Scherer, S., Sodergren, E., Weinstock, G.,	Fernandez,C., Ferraguto,D., Forcum Tansey,J., Gill,R., Gorrell,J.H., Gunaratne,P., Haller,G., Hernandez,J., Hogues,M., Hosak,H., Hou,X., Huber,J., Jackson,L., Jia,Y., Kelly,J., Kelly,S.,	<pre>Metzker,M.L., Lewis,L.R., Hume,J., Edwards,C., Harris,C., Dederich,D., Thomas,S., Okwuonu,G., Carlock,C., Garner,T., Addison,S., Pace,A., Williams,G., Bonnin,D., Brooks,A., Brown,J., Buhay,C., Bunac,C., Burkett,C., Chacko,J., Chen,G., Chen,Z., Cox,C., Davis,C., Delgado,O., Ding,Y., Dugan-Rocha,S.,</pre>	tazoa; Chordata; Cran heria; Rodentia; Sciu o 203083)	.23 GI:14547768 S_PHASE1; HTGS_DRAFT; HTGS_FULLTOP. ulus. ulus	203083 bp DNA linear HTG 27-JUN-2001 Mus musculus chromosome 11 clone RP23-168P5, WORKING DRAFT SEQUENCE, 7 unordered pieces. AC069459		AGTGG 27901	AATGG 1373	TTCCCTGTGGATTTTTAAAACAGATATTATTATTATTATTATTATTAGTGACAAAATGTTGATA 1368 	TAGGCCAGGAGTTCCCAAATGTGAGGGGCGAGA-AACAAGACAAG	CCCCACTTCAGGCACTAAGAGGGGCTGGACCTGGCGGGCAGGAAGCCAAAGAGACTGGGCC 1249	CCACAGACCCCCAGGGCATTGTGTTCACTGTACTCTGTGGGCAAGGATGGGTCCAGAAGA 1189	CTCACTAGCTCCCCAATCCCTGACCCTTTGAGGCCCCCAGTGATCTCGACTCCCCCCTGG 1129	CCCACATAAATACAGTATTCCCACTCTTATCTTACAACTCCCCCACCGCCCACTCTCCAC 1069 GCCACACCAATATTCCCAGCTCTTCCCACCTCCAGCTCTCCAC 27623

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FEATURES
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Matches 556;
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AGCATCACCACACCTCCCTACCCCACCCCCACTCCTCCACCCCCTC-GCTGCTCCTTGGT 42661
                                                                                                                                                    TTCCAGGTTCACTGAGGGGCCCTGGTCTCCCCACAGTCGTCCCAGGCTGCCGGCTCC--- 897
                                                                                                                                                                                                                                                                                                              CAGCTCCGTTTGTGCCAGGTGTCTGGGCTGTTGCCGCTGCGGCCAGGGTCTTCCCTTCGG 42840
                                                                                                                                                                                                          ATCCGCACCCTCCCCTGGGCTCATCTTAAGGCTGCCCCCTTCCTAACCTACTTTGGACTC 42780
                                           -- CCTCGACAGCTCTCTGGGCACCCGGTCCCCTCTGCCCCACCCTCAGCCGCTCTTTGCT 955
                                                                                                   TTTCAAGTTCACTGAGGGGCCTTGCTCTCCCAGATTCCTTAAACTTTCCCTGGCTCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                     GTGCTGGCCCTGCCTGCAAGAATTCTCAGCCACAGCAGCAAGCTCTCCTGGGCCC
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NOTE: This is a "vorking draft" sequence. It currently consists of 7 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown.

This record will be updated with the finished sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequencing vector: M13; L08821
Chemistry: Dye-terminator Big Dye: 52% of reads
Chemistry: Dye-terminator Big Dye: 52% of reads
Assembly program: Phrap; version 0.990329
Consensus quality: 212648 bases at least Q40
Consensus quality: 218902 bases at least Q30
Consensus quality: 222384 bases at least Q30
Consensus quality: 222384 bases at least Q30
Estimated insert size: 210656; sum-of-contigs estimation
Quality coverage: 0x in Q20 bases; sqarose-fp estimation
Quality coverage: 7.2x in Q20 bases; sum-of-contigs estimation
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/db_xref="taxon:10090"
/chromosome="11"
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72.0%;
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1: contig of 18207 bp in length

1: gap of unknown length

7: contig of 22576 bp in length

7: gap of unknown length

7: contig of 6530 bp in length
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Pred. No. 9.5e-47;
0; Mismatches 149;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (17-NOV-2001) Wellcome Trust Sanger Institute, Hinxton, Cambridgeshire, CB10 15A, UK. E-mail enquirites: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk on Nov 20, 2001 this sequence version replaced g1:16605765. During sequence assembly data is compared from overlapping clones.
                                                                                                                                                                                                                                      only a small overlap as described above.

This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one plasmid subclone; and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em:, EMBL; Sw:,
                   http://www.sanger.ac.uk/Projects/C_elegans/wormpep RP23-422Lifrom the RPC1-23 Mouse PAC Library constructed by the group of Pieter de Jong. For further details see http://www.chori.org/bacpac/home.htm VECTOR: pBACe3.6
This sequence is the entire insert of clone RP23-422L16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           complete sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus
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                                                                                                                                                                                            database can be found at
                                                                                                                                                                                                               SWISSPROT; Tr:, TREMBL; Wp:, WORMPEP; Information
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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RESULT 13
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                                                                                                                                                                                                                                                               AGAAGTTCCCAACTGTGAGGGGGAAGAGCTGGGGACAAGCTCCTCCCTGGA----TCCCT
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AC119115 138792 bp DNJ
Rattus norvegicus clone CH230-320N23,
***, 32 unordered pieces.
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complement(84050. .84131)
note="Sequence from uni-directional primer reads and
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/db_xref="taxon:10090"
/chromosome="11"
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                                                                                                                                                                                                                                                                                                                          Submitted (18-UUI-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA On Jul 14, 2002 this sequence version replaced gi:20303440.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Worley, K.C.
Direct Submission
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Muzny, D.M., Adams, C.,
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
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                                                   Web site: http://www.hgsc.bcm.tmc.Contact: hgsc-help@bcm.tmc.edu
                                                                                                                                                               Center code: BCM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (25-APR-2002) Human Genome Sequencing lar and Human Genetics, Baylor College aza, Houston, TX 77030, USA
Project Information
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of Medicine, One
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NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/genbank_draft_data.html).

NOTE: This is a "working draft' sequence. It currently consists of 32 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           as soon as it is available and the accession number will be preserved.
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Chemistry: Dye-terminator Big Dye: 100% of reads
Assembly program: Phrap; version 0.990329
Consensus quality: 117720 bases at least Q40
Consensus quality: 116666 bases at least Q30
Consensus quality: 119165 bases at least Q20
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                 CCTGTGGATTTTTAAAACAGATATTATTTTTTATTATTATTGTGACAAAATGTTGA 1366
                                                                           CACTTCAGGCACTAAGAGGGGCTGGACCTGGCGGCAGGAAGCCAAAGAGACTGGGCCTAG
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CCTGTGGATTTTGAAA--AGATACTATTTTTATTATTATTGTGACAAAATGTTAA 138340
                                                           GCCAGAAGTTCCCAAATGTGAGGGGAAAGAGATGGAGACAAGCTCCTCCCTGGA----
                                                                                                                      TGCATCAGGCATCAAGATAGGCTGGACCTGGTGGCAGGAAGCCAAAGAACCTGGGACTAG
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/db_xref="taxon:10116"
/clone="CL230-230023"
31996 c 31712 g 36193 t
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Pred. No. 1.2e-36;
0; Mismatches 188;
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KEYWORDS
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
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Haghighi, P., Hansen, N., Ho, S.-L., Idol, J.R., Karlins, E., Laric, P.,
Lee-Lin, S.-Q., Legaspi, R., Maduro, Q.L., Maduro, V.B.,
Margulies, E. H., Masiello, C., Maskeri, B., Mastrian, S.D.,
McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R.,
Portnoy, M.E., Prasad, A., Schueler, M.G., Stantripop, S., Thomas, J.W.,
Thomas, P.J., Touchman, J.W., Tsurgeon, C., Vogt, J.L., Walker, M.A.,
Wetherby, K.D., Wiggins, L., Young, A., Zhang, L.-H. and Green, E.D.
NISC Comparative Sequencing Initiative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Submitted (08-AUG-2002) NIH Intramural Sequencing Center, Grovemont Circle, Gaithersburg, MD 20877, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AC130192 177555 |
Sus scrofa clone RP44-436K21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Green, E.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Benjamin, B., Blakesley, R.W., Bouffard, G.G., Breen, K.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HTG; HTGS_PHASE1; HTGS_DRAFT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AC130192
AC130192.1 GI:22138443
                                                                                                                                                                                                                                                                                                                                                                                            NOTE: This is a 'working draft' sequence. It currently consists of 10 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence.
                                                                                                                                                                                                                                                                                                                                                        as soon as it is available and the accession number will be preserved.
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                                               21402
33720
33820
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Consensus quality: 164120 bases at least Q40
Consensus quality: 168085 bases at least Q30
Consensus quality: 170767 bases at least Q20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Insert size: 169000; agarose-fp
Insert size: 176655; sum-of-contigs
Quality coverage: 4.78x in Q20 bases;
Quality coverage: 4.57x in Q20 bases;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: nisc_zoo@nhgri.nih.gov
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21302
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    Summary Statistics

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ig of 3309 bp in length
of unknown length
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J of 6496 bp in length
with the second length
with length length
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of 7736
                                                               of 13570 bp in
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WORKING DRAFT SEQUENCE, 10 unordered
                      17846 bp
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                    ACCESSION
VERSION
                                                                                                           RESULT 15
AC126925/c
LOCUS
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DEFINITION

AC126925

KEYWORDS

unordered pieces. AC126925 AC126925.1 GI:21724102 HTG; HTGS_PHASE1; HTGS_DRAFT.

Canis familiaris clone RP81-332E11,

161428 bp

DNA linear HTG 10-, WORKING DRAFT SEQUENCE,

HTG 10-JUL-2002 EQUENCE, 15

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Db 113941 GGCTGCTCCTCCCCAGACCT 113922
                                                                  Db 114001
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Best Local Similarity
Matches 274; Conserv
                                                                                                                                                                                                      114121 CCTCGGGCCCCAGCTCCGTCTCTGCCAGGTGTCTGGGCTATTGCCCCTGCGGCCGGGGTC 114062
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                                 891 CGGCTCCCCTCGACAGCTCT 910
                                                                                                                                                                                                                                                                                                          651 GGTGGATGGTGTGCTGCCCTGCGCTGCCTGGAGGAATTCTCAGCCACTGCGGCCAGTTC 710
                                                                   CTTTGGACTCTTCCAAGTTCACTGAGGGGCCCCGGGCTCCCCAGCAGCCGCCCCACCCCG 113942
                                                                                     CTTCGGACTCTTCCAGGTTCACTGAGGGGCCCTGGTCTCCCCACAGTCGTCCCAGGCTGC
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/db_xref="taxon:9823"
/clone="RP44-436K21"
/clone_lib="RP44"
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6 115265: gap of unknown length
6 177555: contig of 62290 bp in
Location/Qualifiers
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115266. .177555
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TITLE
JOURNAL
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AUTHORS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lee-Lin, S.-Q., Legaspi, R., Maduro, Q.L., Maduro, V.B., Margulles, E.H., Masiello, C., Maskeri, B., Mastrian, S.D., McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R., Portnoy, M.E., Prasad, A., Schueler, M.G., Stantripop, S., Thomas, J.W., Thomas, P.J., Touchman, J.W., Tsurgeon, C., Vogt, J.L., Walker, M.A., Wetherby, K.D., Wiggins, L., Young, A., Zhang, L.-H. and Green, E.D.
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Canis familiaris
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Akhter, N., Antonellis, A.,
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be preserved.
                                                                                                                                                                                                                                                                                                                                                                                              arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
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Consensus quality: 148712 bases at least Q40
Consensus quality: 151471 bases at least Q30
Consensus quality: 151475 bases at least Q30
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Insert size: 160028; sum-of-contigs
Quality coverage: 5.36x in Q20 bases; agarose-fp
Quality coverage: 5.10x in Q20 bases; sum-of-cont
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4834: gap of unknown length
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W., Bouffard,G.G., Breen,K., Brinkley,C.,
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102175: contig of 8629 bp in length
102275: gap of unknown length
131685: contig of 29410 bp in length
131785: gap of unknown length
161428: contig of 29643 bp in length
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Pred. No. 1.7e-34;
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42211 CTGCAGCTCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
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Search completed: May 8, 2003, 10:02:32 Job time: 4943.14 secs

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ELMATYOLE; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Elmaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

12 1 (bases 1 to 777)

13 NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)

14 Unpublished (1999)

15 Contact: Robert Strausberg, Ph.D.
Email: cyapbs-remail.nih.gov

Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM11437 row: 1 column: 03

High quality sequence stop: 759.

S Location/Qualifiers

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Query Match
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Matches 729; Conser
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/clone_lib="NIH_MGC_115"
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CTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTG
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Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies, Inc.
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National Institutes of Health, Mammalian
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1. (bases 1 to 1071)
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5', mRNA sequence.
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/db_xref="taxon:9606"
/clone="IMAGE:5752561"
/clone_lib="NIH_MGC_115"
/lab_host="DH10B"
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1 (bases 1 to 963)

NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

Unpublished (1999)

Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
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5', mRNA sequence.
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          194
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Location/Qualifiers
/tissue_type="epidermoid carcinoma, cell line"
/lab_host="DBHOB (phage-resistant)"
/note="Organ: salivary gland; Vector: pOTB7; Site_1: XhoI;
Site_2: EcoRI; cDNA made by oligo-dT priming.
Directionally cloned into EcoRI/XhoI sites using the
following 5 adaptor: GGCACGAG(G). Library constructed
by Ling Hong in the laboratory of Gerald M. Rubin
(University of California, Berkeley) using ZAP-cDNA
synthesis kit (Stratagene) and Superscript II RT (Life
Technologies). Note: this is a NIH_MGC Library."
a 326 c 260 g 183 t
                                                                                                                                                                                                            /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:6274716"
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Ge
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Miklos Palkovits, M.D.,
cDNA Library Preparation: Michael J. Brown
Toshiyuki and Piero Carninci (RIKEN)
cDNA Library Arrayed by: The I.M.A.G.E. Co
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                                                                                                                                                                                                       mRNA sequence.
BI596681
BI596681.1 GI
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                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; 1 (bases 1 to 828)
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                             M.D., Ph.D.
Brownstein
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Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM11722 row: k column: 13
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/db_xref="taxon:9606"
/clone="IMAGE:5285892"
/clone_lib="NIH_MGC_96"
/tissue_type="hypothalamus"
/lab_host="DH10B"
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99.78;
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TTTATAGTCACCCGGGCTGGGCTCTACTACCTGTACTGTCAGGTGCACTTTGATGAGGGG
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                                                                  TGGGAGGAAGCCAGAATCAACAGCTCCAGCCCTCTGCGCTACAACCGCCAGATCGGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Plate: LLAMI2034 row: a column: 12 High quality sequence stop: 728.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, M
Unpublished (1999)
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Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:5405459"
/clone=lib="NIHE_MGC_90"
/tissue_type="adenocarcinoma, cell line"
/tissue_type="adenocarcinoma, cell line"
/lab_host="DH10B (phage-resistant)"
/note="Organ: liver; Vector: pCMV-SPORT6; Site_1: NotI;
/site_2: SalI; Cloned unidirectionally; oligo-dT primed.
Site_2: SalI; Cloned unidirectionally; oligo-dT primed.
Average insert size 1.7 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
25 a .240 c .227 g .136 t
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D; Mismatches 0;
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                                                               AGAAGTGCACCTAAAGGCCGGAAAACACGGGCTCGAAGAGCGATCGCAGCCCCATTATGAA 441
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cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM12034 row: b column: 07
High quality sequence stop: 728.
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mRNA sequence.
B1871711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished (1999
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                                                                                                                                                                                                                                                                                                               /lab_host="DH10B (phage-resistant)"
/note="Organ: liver; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: Sall; Cloned unidirectionally; oligo-dT primed.
Average insert size 1.7 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NHI_MCC Library."

242 c 228 g 136 t
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/tissue_type="adenocarcinoma,
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/clone="IMAGE:5405478"
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                                                                                                                                                                                                                                                                        (brown@fas.harvard.edu) This sequence consortium, for clone orders contact: High quality sequence stop: 412.

Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                        Email: dmelton@biohp.harvard.edu
Library was constructed by Dr. Douglas Melton DNA sequencing by
Washington University Genome Sequencing Center For information
obtaining a clone please contact: Juliana Brown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MA 02138
Tel: 617-495-1812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Douglas Melton, Klaus H. Kaestner, & Hiroshi Inoue
Endocrine Pancreas Consortium
Harvard University, Howard Hughes Medical Institute
Dept of Molecular and Cellular Biology, 7 Divinity Ave, Cambridge,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Melton,D., Brown,J., Kenty,G., Permutt,A., Lee,C., Kaestner,K., Lemishka,I., Scearce,M., Brestelli,J., Gradwohl,G., Clifton,S., Hillier,L., Marra,M., Pape,D., Wylle,T., Martin,J., Blistain,A., Schmitt,A., Theising,B., Ritter,E., Ronko,I., Bennett,J., Cardenas,M., Gibbons,M., McCann,R., Cole,R., Tsagareishvili,R., Williams,T., Jackson,Y. and Bowers,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fax: 617-495-8557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Endocrine Pancreas Consortium 
Unpublished (2000)
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Melton,D., Brown,J.,
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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/note="Organ: Pancreas; Vector: pSPORT1; Site_1: Not 1;
Site_2: Sal 1; Starting library constructed using
SuperScript Plasmid Library kit (Life Technologies). c
                                                                    /lab_host-"DH10B"
                                                                                      /tissue_type="Islets
/dev_stage="Adult"
                                                                                                                                                               /clone_lib="Melton
                                                                                                                                                                                    /clone="IMAGE:5672623"
                                                                                                                                                                                                         /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                          /sex-"Both"
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REFERENCE
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KEYWORDS
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                              Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; V
Mammalia; Eutheria; Primates; Catarrhini;
(bases 1 to 948)
II +MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                                                     948 bp
AGENCOURT_8353983 NIH_MGC_113 Homo
5', mRNA sequence.
BQ707185
BQ707185.1 GI:21846084
              Contact: Robert Strausberg, Ph.D
                                                                                                                                                       human.
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cgapbs-r@mail.nih.gov
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          made by oligo-dT priming. Size-selected by column fractionation; average insert size 1.08 kb. Library was amplified once on solid support and plasmid DNA from library was prepared. The library DNA was normalized by method #4 from Bonaldo, Lennon, and Soares 1996 Genome Research 6:791-806; 0.5 microgram single-stranded library plasmid DNA was mixed with 5 micrograms PCR product representing library inserts and hybridized to an Ecot of 20. Single-stranded (unhybridized) plasmids were isolated by hydroxyapatite chromatography and used to make this
                                                                                                                                                                                                                                                                                                                                                 23
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NE IMAGE:6278608
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BQ884231 940 bp mrNA 1
AGENCOURT_8682031 Lupski_sciatic_nerve Homo
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High quality sequence start: 24
High quality sequence stop: 550.
Location/Qualifiers
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CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencurt Bioscience Corporation
Clone distribution: MGC clone distribution information can
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/db_xref="taxon:9606"
/db_xref="taxon:9606"
/clone="IMAGE:6278608"
/clone=lib="NHI MGC Library."
/lab_host="DH10B (phage-resistant)"
/note="Organ: spheen; Vector: pOTB7; Site_1: XhoI; Site_2:
/note="Organ: spheen; Vector: pOTB7; Site_1: Adaptor:
/note="Organ: Spheen; Vector: potential of the following 5; Adaptor:
/note="Organ: Spheen; Vector: potential of the following for the laboratory of Gerald M. Rubin (University of California,
/note="Organ: Berkeley) using ZAP-DUA synthesis kit (Stratagene) and
/note="Organ: Spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: potential of the spheen; Vector: pot
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Pred. No. 5.1e-214;
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AUTHORS
TITLE
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GTGGACGGGACAGTGAGTGGCTGGGAGGAAGCCAGAATCAACAGCTCCAGCCCTCTGCGC
                                                                                          TACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTGTACTGT
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                                                                      TACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTGTACTGT
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                                                                                                                                                                                                                                                                                                                                                        CAGGACCCGTCGGAACTGAATCCCCCAGACAGAAGAAAGCCAGGATCCTGCGCCTTTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Robert Strausberg, Ph.D.
Email: cgapbs r@mail.nih.gov
Tissue Procurement: Dr. James R. Lupski
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleosto; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 940)

NIH-MCC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
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BQ884231
BQ884231.1 GI:22276239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            http://image.llnl.gov
Plate: LLAM13607 row: j column:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5'-GACTAGTTCTAGATCGCGAGCGGCCGCCT(15)-3'. Size selected > 1 kb for average insert length 1.87 kb. This is a primary library, non-amplified. Library constructed by Life Technologies and donated by J. Lupski, M.D./Ph.D. (Baylor College of Medicine) and is available through Life Technologies."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Technologies.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note-"Vector: pCMV-SPORT6 (Life Technologies); Site_1: Not1; Site_2: Sal1; cDNA made by oligo-dT prining. Directionally cloned using the following adaptors: 5'-TCGACCCACGCGTCCG-3' and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:6197488"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /tissue_type="sciatic nerve"
/dev_stage="adult, 70 yr"
/lab_host="DH10B"
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                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 436; DB 14; Length 940; Pred. No. 1.7e-213;
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TITLE
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                                                                                                                                                                                                                                                                                                                                                                                        Matches 656;
                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
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                                                                                                                                                                                                                                                                                            272 CCCAGGAGGAGCTGGTGGCAGAGAGGACCAGGACCCGTCGGAACTGAATCCCCAGACAG
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                                                             392 CTAAAGGCCGGAAAACACGGGCTCGAAGAGCGATCGCAGCCCATTATGAAGTTCATCCAC
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                                                                                                                                                                                          AAGAAAGCCAGGATCCTGCGCCTTTCCTGAACCGACTAGTTCGGCCTCGCAGAAGTGCAC 391
                                                                                                                                                                                                                                                       CCCAGGAGGAGCTGGTGGCAGAGGAGGACCAGGACCCGTCGGAACTGAATCCCCAGACAG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: cgapbs-r@mail.nih.gov

Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLN:
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
plate: LLAM11517 row: c column: 18
High quality sequence stop: 772.
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National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; 1 (bases 1 to 834)
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BI766766
BI766766.1 GI:15758344
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Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                        Conservative
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1 287 c 223 g 170 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note-*Organ: pooled lung and spleen; Vector: pCMV-SPORT6; Site_1: NotI; Site_2: EcoRV (destroyed); RNA source anonymous pool of 24 week female lung, 16 week female spleen, and 20-22 week male spleens. Library is oligo-dT primed and directionally cloned (BcoRV site is destroyed upon cloning). Average insert size 1.4 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber to the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the constructed by C. Gruber of the 
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/clone_lib="NIH_MGC_122"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/db_xref="taxon:9606"
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Pred. No. 3.4e-203;
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1 (Dases 1 to 413)

NCI/NINDS-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.

National Cancer Institute / National Institute of Neurological Disorders and Stroke, Brain Tumor Genome Anatomy Project (CGAP/BTGAP), Tumor Gene Index Unpublished (1998)
                                                                                                                                                                    CDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome
Clone distribution: NCI-CGAP clone distribution
found through the I.M.A.G.E. Consortium/LLNL at:
www-bio.llnl.gov/bbrp/image/image.html
Insert Length: 1728 Std Error: 0.00
                                                                                                                                                                                                                                                                                                                                    Tissue Procurement:
                                                                                                                                                                                                                                                                                                                                                  Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
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                                                                                                                                                                                                                                                                                            cDNA Library Preparation: M. Bento Soares, Ph.D.,
                                                                                                                                     primer: -40UP from Gibco
quality sequence stop: 410
/clone="IMAGE:2096962"
/clone_lib="NCI_CGAP_Brn23"
/tissue_type="glioblastoma (pooled)"
/laD_host="DH10B"
                                                                    /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                  /db_xref-"taxon:
                                                                                                                   Location/Qualifiers
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                                                            AGAAACAAGACAAGCTCCCCTTGAGAATTCCCCTGTGGATTTTTAAAACAGATATTATT
                                                                                                                                              AGGCCCCCAGTGATCTCGACTCCCCCCTGGCCACAGACCCCCAGGGCATTGTGTTCACTG
                                                                                                                                                                                                                                                        CTTACAACTCCCCCACCGCCCACTCTCCCACTCACTAGCTCCCCCAATCCCTGACCCTTTG
                                               AGAAACAAGACAAGCTCCTCCCTTGAGAATTCCCTGTGGATTTTTAAAAACAGATATTATT
                                                                                                                                                                      TACTCTGTGGGCAAGGATGGGTCCAGAAGACCCCACTTCAGGCACTAAGAGGGGCTGGAC
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KEYWORDS
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                                                                                                                                                                                     JOURNAL MEDLINE
                                                                                                                                                                                                                                          TITLE
2024 University of Iowa Med Labs, Iowa City, IA 52242, USA Tel: 319 356 4866
Fax: 319 356 7171
Email: paul-mccray@ulowa.edu
Tissue Procurement: Dr. M. J. Welsh, University of Iowa cDNA Library preparation: Dr. M. Bento Soares, University ocDNA Library Arrayed by: Dr. M. Bento Soares, University o
                                                                                                                                                                                                                                                    Mammalia; Eutheria;
1 (bases 1 to 568)
Bonaldo, M.F., Lennon
                                                                                                                                                                                                                                                                                                                                                                                вм971606
вм971606.1
                                                                                                                                                                                                                                                                                                                                                                                                                 BM971606 568 bp mRNA linear EST 21-M UI-CF-EC1-abl-p-06-0-UI.S1 UI-CF-EC1 Homo sapiens cDNA clone UI-CF-EC1-abl-p-06-0-UI 3', mRNA sequence.
                                                                                                                                                                   Contact: McCray, PB
                                                                                                                                                                                                                      discovery
                                                                                                                                University of Iowa
                                                                                                                                                  McCray Lab
                                                                                                                                                                                                    Genome Rés. 6 (9),
                                                                                                                                                                                                                                       Normalization and subtraction:
                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                            Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                  GI:19589193
                                                                                                                                                                                                                                                       Lennon, G. and Soares, M.B
                                                                                                                                                                                                      791-806 (1996)
                                                                                                                                                                                                                                                                                          Chordata;
Primates;
                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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RESULT 13
BI824443
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                                                                                                                                                                                                                                                                                                                                                                               GCTGCCTGGGCCTGTTCACGTGTTTTCCATCCCACATAAATACAGTATTCCCACTCTTAT 1039
                                                                                                                                                                                                                  AGAAACAAGACAAGCTCCTCCCTTGAGAATTCCCTGTGGATTTTTAAAACAGATATTATT 1339
                                                                                                                                                                                                                                                                                    TTTATTATTATTGTGACAAAATGTTGATAAATGG
                                                                                                                                           TTTATTATTGTGACAAAATGTTGATAAATGG 1373
                                                                                                                                                                                        AGAAACAAGACAAGCTCCTCCCTTGAGAATTCCCTGTGGATTTTTAAAAACAGATATTATT
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The following repetitive elements were found in this cDNA sequence: 1-82, >AT_rich#Low_complexity (matched compliment) Seq primer: M13 FORWARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA Sequencing by: Dr. M. Bento Soares, University of Iowa Clone Distribution: Researchers may obtain clones from Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          130
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_type="Lung"
/tissue_type="Lung"
/tissue_type="Adult and Fetal"
/lab_host="DHIOB (Life Technologies) (T1 phage resistant)"
/lab_host="DHIOB (Life Technologies) (T1 phage resistant)"
/note="Organ: Lung; Vector: pT7T3-Pac (Pharmacia) with a
modified polylinker; Site_1: EcoR I; Site_2: Not I;
UT-CF-EC1 is a normalized CDNA library containing the
following tissue(s): Normal lung from adult and from fetal
day 64, day 87, week 19 and week 42. The library was
constructed according to Bonaldo, Lennon and Soares,
Genome Research, 6:791-806, 1996. First strand CDNA
Genome Research, 6:791-806, 1996. First strand CDNA
Genome Research 6:791-806, 1996. First strand cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             synthesis was primed with an oligo-dT primer containing a Not I site. Double stranded cDNA was ligated to an EcoR I adaptor, digested with Not I, and cloned directionally into pT7T3-Pac vector. The oligonucleotide used to prime the synthesis of first-strand cDNA contains a library tag sequence that is located between the Not I site and the CT718 tail. The sequence tag for this library is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TAG_SEQ=AAGTGCTTAC"
119 c 184 g
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone_lib="UI-CF-EC1"
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Pred. No. 7.
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7.6e-192;
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                                                                                            CATCCCACATAAATACAGTATTCCCACTCTTATCTTACAACTCCCCCACCCCCCCACTCTC
                                                                                                                                                                           CTCTTTGCTCCAGACCTGCCCTCCCTCTAGAGGCTGCCTGGGCCTGTTCACGTGTTTTC
                                                                                                                                                                                                                                                      CTGCCGGCTCCCCCTCGACAGCTCTCTGGGCACCCGGTCCCCCTCTGCCCCACCCTCAGCCG
                                                                                                                                                                                                                                                                                                                                 CCTACTTCGGACTCTTCCAGGTTCACTGAGGGGCCCTGGTCTCCCCACAGTCGTCCCAGG
                                                                                                                                                                                                                                                                                                                                                                                   CACCTCACTAGCTCCCCAATCCCTGACCCTTTGAGGCCCCCAGTGATCTCGACTCCCCCC
                                                                                                                                                                                                                                  CTGCCGGCTCCCCTCGACAGCTCTCTGGGCACCCGGTCCCCTCTGCCCCACCCTCAGCCG
                                                                                                                                                                                                                                                                                                            CCTACTTCGGACTCTTCCAGGTTCACTGAGGGGCCCTGGTCTCCCCGCAGTCGTCCCAGG
                                                                                                                                                       CTCTTTGCTCCAGACCTGCCCTCCCTCTAGAGGCTGCCTGGGCCTGTTCACGTGTTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    425;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
plate: LLAM11447 row: j column: 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; 1 (bases 1 to 531)
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National Institutes of Health, Mammalian Gene Collection (MGC)
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603038693F1 NIH_MGC_115 Homo
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Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unpublished (1999)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note-"Organ: pooled brain, lung, testis; vector:
pCMV-SPORM6; Site_1: NotI; Site_2: EcoRV (destroyed); RNA
source anonymous pool of 6 male brains, age range 23-27; 1
male lung, age 27; and 1 male testis, age 69. Library is
oligo-dT primed and directionally cloned (EcoRV site is
destroyed upon cloning). Average insert size 1.8 kb,
insert size range 1-3 kb. Library is normalized and
enriched for full-length clones and was constructed by C.
Gruber (Invitrogen). Research Genetics tracking code
021. Note: this is a NIH_MGC Library."

72 a 223 c 119 g 117 t
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/db_xref="taxon:9606"
/clone="IMAGE:5179510"
/clone_lib="NIH_MGC_115"
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99.8%;
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Pred. No. 4.8e-182;
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sapiens cDNA clone IMAGE:5179510 5',
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Email: dmelton@blohp.harvard.edu
Library was constructed by Dr. Douglas Melton DNA sequencing by:
Washington University Genome Sequencing Center For information on
obtaining a clone please contact: Juliana Brown
(brown@fas.harvard.edu) This sequence now available from the IMAGE
consortium, for clone orders contact: info@image.llnl.gov
High quality sequence stop: 415.
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Fax: 617-495-8557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Endocrine Pancreas Consortium
Harvard University, Howard Hughes Medical Institute
Dept of Molecular and Cellular Biology, 7 Divinity Ave, Cambridge,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Douglas Melton, Klaus H. Kaestner, & Hiroshi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Endocrine Pancreas Consortium Unpublished (2000)
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440 bp mRNA linear EST 12-MAR-2002 1f09b06.yl Melton Normalized Human Islet 4 N4-HIS 1 Homo sapiens CDNA clone IMAGE:5675843 5' similar to TR:054907 054907 TNF-RELATED WEAK INDUCER OF APOPTOSIS; mRNA sequence.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
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                                                                                  တ
                                                                                                                                                                                       /note-*Organ: Pancreas; Vector: pSPORT1; Site_1: Not 1; Site_2: Sal 1; Starting library constructed using SuperScript Plasmid Library kit (Life Technologies).cDNA made by oligo-dT priming. Size-selected by column fractionation; average insert size 1.08 kb. Library was amplified once on solid support and plasmid DNA from library was prepared. The library DNA was normalized by method #4 from Bonaldo, Lennon, and Soares 1996 Genome Research 6:791-806; 0.5 microgram single-stranded library plasmid DNA was mixed with 5 micrograms PCR product
                                                                                library.
                                                                                                                              representing library 20. Single-stranded () by hydroxyapatite chro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:5675843"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'tissue_type="Islets of Langerhans"
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                                                                                                                         hydroxyapatite chromatography
                                                                                                                                                 resenting library inserts and hybridized to an Ecot of Single-Stranded (unhybridized) plasmids were isolated
       25
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                                                                             O
     Score 352;
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 d) plasmids were isolated
and used to make this

Length 440
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTGATCTCGACTCCCCCCTGGCCACAGACCCCCAGGGCATTGTGTTCACTGTACTCTGT 1167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGCCTGTTCACGTGTTTTCCATCCCACCATAAATACAGTATTCCCACTCTTATCTTACAAC
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AGENCOURT_8354100 NIH_MGC_102
5', mRNA sequence.
BQ674188
BQ674188
BQ674188.1 GI:21785022
EST.
                                                                                                                                                                                                                                                       found through the I.M.A.G.E. Consortium/LLNL http://image.llnl.gov Plate: LLCM2459 row: d column: 01 High quality sequence stop: 335.
                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nih.gov
Tissue Procurement: ATCC
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National Institutes of Health, M
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CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
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/tissue_type="epidermoid carcinoma, cell line".
/lab_host="DHIOB (phage resistant)"
/note="Organ: salivary gland; Vector: pOTB7; Site_1: XhoI;
Site_2: EcoRI; cDNA made by oligo-dT priming.
Directionally cloned into EcoRI/XhoI sites using the following 5' adaptor: GGCACGAG(G). Library constructed by Ling Hong in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-cDNA
                                                                                                                                              /clone_lib="NIH_MGC_102"
                                                                                                                                                               /db_xref="taxon:9606"
/clone="IMAGE:6275664"
                                                                                                                                                                                                    /organism="Homo sapiens"
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Eutheria; Primates; Catarrhini; Hominidae; Homo.
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Best Local Similarity 100.
Matches 349; Conservative
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Technologies). Note: this is a NIH_MGC Library."
a 286 c 315 g 184 t 1 others
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ALIGNMENTS

RESULT 1 AAV18600 18-MAR-1997; 07-AUG-1996; 18-OCT-1996; TRELL; tumour necrosis factor related ligand; tnf; treatment; cancer; autoimmune disease; immune system; stimulation; suppression; graft rejection; ds. CDS 07-AUG-1997; 21-JUL-1998 (first entry) AAV18600; · AAV18600 standard; cDNA; 1373 (BIOJ) BIOGEN INC 12-FEB-1998 WO9805783-A1 Homo sapiens. Homo sapiens tumour necrosis factor related ligand (TRELL) gene. 97US-0040820. 96US-0023541. 96US-0028515. 97WO-US13945 Location/Qualifiers /note= /*tag= a "tumour necrosis factor related ligand" ВP

Expression vector

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Best Local Similarity
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RESULT 2 ABK34881

ABK34881 standard; CDNA; ВP

ABK34881;

08-MAY-2002 (first entry)

Human cDNA encoding secreted protein

Human; secreted protein; gene; ss; nutritional supplement; haemophilia; viral infection; bacterial infection; fungal infection; diabetes; asthmautoimmune disorder; rhemmatoid arthritis; multiple sclerosis; tumour; autoimmune thyroiditis; allergic reaction; neurodegenerative disease; Alzheimer's disease; Parkinson's disease; liver fibrosis; cancer; ulcer asthma;

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                                                                                                                 GGCAGGAAGCCAAAGAGACTGGGCCTAGGCCAGGAGTTCCCCAAATGTGAGGGGCGAGAAA
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                                       CAAGACAAGCTCCTTGAGAATTCCCTGTGGATTTTTAAAACAGATATTATTTTAT
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Query Match Best Local Similarity

85.4%; 99.8%;

Score 1172; Pred. No. 0;

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The present sequence is that of cDNA clone DNA30879-1152

(APTCC 209358) encoding human PRO207 (see AAY95338), which shows chomology to several members of the tumour necrosis factor family, cespecially human lymphotoxin (23.4%). The cDNA was identified in a coetal kidney cDNA library following identification of an expressed sequence tag with homology to human Apo-2 ligand. A claimed method for inhibiting the growth of a tumour cell comprises exposing the tumor cell to PRO179, PRO207, PRO320, PRO219, PRO224, PRO224, PRO328, PRO301, PRO526, PRO362, PRO356, PRO509 or PRO866 (see AAY95337-49), their agonists or chimeric polypeptides incorporating them. The tumour is especially a cancer selected from breast, covarian, renal, colorectal, uterine, prostate, lung, bladder and central nervous system cancer, melanoma and leukaemia. Nucleic acids encoding PRO179 etc. are used in the recombinant production
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28-APR-1999,
14-MAY-1999,
20-JUL-1999,
26-JUL-1999,
15-SEP-1999,
                                                                                                                                                                                                                                  Claim
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Napier MA, Pitti RM,
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08-MAR-1999;
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DB; AAY95338.
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99US-0144758.
99US-0145698.
99WO-US21090.
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ovarian cancer; renal cancer; colorectal cancer;
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s system cancer; melanoma; leukaemia; neoplasm; ss
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CCTCACTAGCTCCCCAATCCCTGACCCTTTGAGGCCCCCAGTGATCTCGACTCCCCCTG
                                                           TCCTCCCTGCGGATCCGCACCCTCCCCTGGGCCCATCTCAAGGCTGCCCCCCTTCCTCACC
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WPI; 2002-205567/26
P-PSDB; AAU86129.
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                                                                             Ashkenazi AJ,
                                                                                                          (GETH
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                                                                                                        GENENTECH INC.
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99US-140653P.
99US-144758P.
99US-145698P.
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99US-151689P.
99WO-US20111.
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Thirty five nucleic acids encoding PRO polypeptides, useful for treating benign or malignant tumours, leukaemias and lymphoid malignancies, inflammatory, angiogenic and immunologic disorders
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302pp; English.
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The present invention relates to the isolation of novel human PRO polypeptides and the polynucleotide sequences encoding them. The PRO polypeptides, agonists, antagonists or anti-PRO antibodies are useful for treating benign or malignant tumours (e.g. renal, kidney, bladder, breast, etc), leukaemias and lymphoid malignancies, other disorders such as neuronal, glial, astroytal, hypothalamic, glandular, macrophagal, stromal and blastocoelic disorders, inflammatory, immune and angiogenic disorders. The polynucleotide sequences are also useful in gene therapy. hBR40254-ABR40288 encode for the human PRO polypeptides of the invention.

Sequence 1353 BP; 257 A; 443 C; 389 G; 264 T; 0 other;

85.4%; 99.8%;

Score 1172; Pred. No. 0; Mismatches

DB

24; Length

1353; 0

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                                                     TCCCTCGGGCCCCAGCTCCGCCTCTGCCAGGTGTCTGGGCTGTTTGGCCCTGCGGCCAGGG
                                                                                                                           CTGGTGGATGGTGTGCTGGCCCTGCGCTGCCTGGAGGAATTCTCAGCCACTGCGGCCAGT
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 TCCTCCCTGCGGATCCGCACCCTCCCCTGGGCCCATCTCAAGGCTGCCCCCTTCCTCACC
                                                                                                         CTGGTGGATGGTGTGCTGGCCTGCGTGCCTGGAGGAATTCTCAGCCACTGCGGCGAGT
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                                                                                                           Human; tumour necrosis factor; Apo-3 ligand; lymphotoxin; apoptosis; NF-kappaB-dependent transcription; JNK/SAPK-dependent response;
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17-DEC-1997;
10-OCT-1997;
                    09-OCT-1998;
                                 22-APR-1999
                                                                                                                              Human tumour necrosis factor
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 97US-0069862
97US-0062037
                    98WO-US21407
                                                              Location/Qualifiers
92..841
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                                                         "Apo-3 ligand"
                                                                                                                             Apo-3 ligand polynucleotide sequence
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Best Local Sim
Matches 1322;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim
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P-PSDB; AAY09369.
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          TCCCTCGGGCCCCAGCTCCGCCTCTGCCAGGTGTTCTGGGCTGTTGGCCCCTGCGGCCAGGG
                                         CTGGTGGATGGTGTGCTGGCCCTGCGCTGCGTGGAGGAATTCTCAGCCACTGCGGCCAGT
                                                                                      TACCTGTACTGTCAGGTGCACTTTGATGAĞGGGAAGGCTGTCTACCTGAAGCTGGACTTG
                                                                                                                                 AGCCCTCTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTAC
                                                                                                                                                                                         GCGCAGGCAGGTGTGGACGGGACAGTGAGTGGCTGGGAGGAAGCCAGAATCAACAGCTCC
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99.8%;
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Query Match

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19; Length 1236;

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The TNF-related endothelium proliferative agent (TREPA), or its cativators or agonists, are used to treat a deficit of TREPA, e.g. to promote wound healing or tissue grafting, by promoting vascularisation, calls to induce apoptosis for treating cancer and eliminating autoreactive T cells, as an adjunct to cancer chemotherapy or antiviral treatment. TREPA peptides can also be used to target cytotoxic agents or for caffinity isolation of the corresponding receptor, the nucleic acid for which can be used to transform tumour cells to render them more cresponsive to TREPA and to screen for TREPA mimics.

Cresponsive to TREPA and to screen for TREPA mimics.

CREPA-associated diseases, e.g. tumours and metastases (by inhibiting vascularisation), inflammation or a wide range of autoimmune conditions, conditions involving abnormal stimulation of epithelial cells (e.g. atherosclerosis), for birth control (inhibiting ovulation and placental formation) or other angiogenic conditions (e.g. ulcers).
                                                                                                                                                                                                                                                                                                                                                                                                                                         Detecting nucleic acid encoding TREPA - useful for diagnosis and treatment of autoimmune disease, tumours and inflammation
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P-PSDB; AAW29745.
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                                                                                                                                                                                                                                                                                                                                                    tumour necrosis factor;
TNF related endothelium
                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                  98US-0105343
                                                                                                                                                       /*tag= a
/product= "Human TREPA (TNF
prolliferative agent)"
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proliferative agent; tumour; meta
                                                                                                                                                                                  related
                                                                                                                                                                                  endothelium
                                                                                                                                                                                                                                                                                                                                                       tumour; metastasis;
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The present invention relates to extracellular signal molecules, particularly members of tumour necrosis factor (TNF) family molecules designated as TREPA (TNF related endothelium proliferative agent). Soluble biologically active TREPA are used to treat TREPA-associated diseases, tumours or metastases. TREPA is used for inducing angiogenesis in human for promoting wound healing and for vascularising grafted tissue for successful grafting and to promote tissue grafts. The present sequence is a cDNA clone ID #690050 encoding human TREPA.
                                                                                                                                                                                                                                  Inducing angiogenesis in mammal at desired sites for promoting wound healing, by administering soluble fragment of extracellular domain o tumor necrosis factor related endothelium proliferative agent protein
                                                                                                                                                                                                                                                                                                                                                         Wiley
Sequence 1236 BP;
                                                                                                                                                                                    Example
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10-FEB-1998;
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DB; AAE00891.
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98US-0021706.
225 A; 416 C; 358 G; 237 T; 0 other;
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                                                                                                                                                                                                                                    agent protein
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Query Match
Best Local Similarity
Matches 1208; Conserv
Conservative
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pred. No. 0;
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                                                                                                                                                                                                                                                                                                                                 Tumour necrosis factor receptor; signal transducer molecule; TNF; APO4; developmental abnormality; gestational abnormalitity; prostate cancer; APO6; APO6; APO9; TNRL-1; TNRL-3; diagnosis; treatment; therapy; disease cytoplasmic domain; immunogen; antibody preparation; breast carcinoma;
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    04-SEP-1998;
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Creceptor polypeptides: APO4, APO6, APO8 and APO9 or their active fragments, and isolated TNF related ligands 1 and 3 (TNRL1 and TNRL3) or their active fragments. APO4 is useful for diagnosing prostate cancer by determining levels of APO4 in an individual. Prostate cancer can be treated using APO4 selective binding agents linked to a therapeutic moiety. APO4 polypeptides are also useful for identifying selective binding agents linked to a therapeutic conciety. APO4 polypeptides are also useful for identifying selective binding agents to the polypeptide/active fragment which is extracellular, or concern to the polypeptides active fragments are also useful for screening for agents to the polypeptides/active fragments are also useful for screening concerns and apo4 polypeptides/active fragments are also useful in diagnosts or concerns and apo4 signal transducer molecules that specifically interact with a cytoplasmic domain of APO4 and detecting a change in level of APO4 activity. The method is performed in vivo or in vitro. APO4 polypeptides are also identified using another of APO4 activity. The method is performed in vivo or in vitro. APO4 polypeptides or concerns a considered as immunogens for preparing antibodies. APO4 is also cuseful for diagnosis/treatment of developmental or gestational considered apoptosis.
New Tumor Necrosis Factor family receptor polypeptides and ligands - useful for diagnosis and treatment of prostate cancer and developmental or gestational abnormalities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1999-205191/17.
P-PSDB; AAW93590.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This invention describes isolated Tumor Necrosis Factor (TNF) family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example VII; Fig 13A; 156pp; English.
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Sequence 1030 BP; 223 A; 317 C; 279 ი ი 211 T; 0 other;

Score 784; Pred. No. 0;

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Query Match Best Local :

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                                     AGCCCTCTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTAC
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CTGGTGGATGGTGTGCTGGCCTGCCTGCCTGGAGGAATTCTCAGCCACTGCGGCCAGT

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 Wiley SR
                                                                        20-DEC-1999;
10-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TWEAK extracellular domain; tumour necrosis factor; TNF; angiogenesis; ocular neovascularisation; diabetic retinopathy; neovascular glaucoma; retinoblastoma; retinopathy of prematurity; retrolental fibroplasia; rubeosis; uveitis; macular degeneration; arthritis; rheumatism; ds;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAS03964 standard;
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                                                                                                                                                                                                                                                                "Fusion protein comprising a growth hormone leader, a leucine zipper multimerisation domain, and human TWEAK extracellular
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                                                  GTGGATGGTGTGCTGCCCTGCCCTGCAGGAATTCTCAGCCACTGCGGCCAGTTCC
                                                                                                                                                                  CTGTACTGTCAGGTGCACTTTGATGAGGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTG
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Length 898; Indels

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Gaps

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351

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The sequence represents a DNA from the expression vector CC pDC409-LZ-TWEAK, which encodes a fusion protein comprising a growth CC pDC409-LZ-TWEAK, which encodes a fusion protein comprising a growth CC control leader, a leucine zipper multimerisation domain, and the CC extracellular domain of human TWEAK. The fusion protein was used in CC the isolation of human mean the control of the control of human cDNA library. The TWEAK protein is a CC member of the tumour necrosis factor (TNE) family and induces CC angiogenesis. TWEAKR may therefore be used to screen for and develop CC mediated by angiogenesis include ocular disorders characterised by ocular cc meovascularisation such as diabetic retinopathy, neovascular glaucoma, retinopathy of prematurity, retrolental fibroplasia, CC rubeosis, uveitis, macular degeneration and corneal graft convascularisation, and inflammatory diseases such as arthritis, CC neovascularisation, and inflammatory diseases such as arthritis, CC neovascularisation conditions such as sarcomas and carcinomas, benign tumours and CC metastatic conditions such as sarcomas and carcinomas, benign tumours and CC proderma, vascular adhesions, atherosclerotic plaque covascularisation, telangiectasia, wound granulation, coronary atherosclerosis, peripheral atherosclerosis and ischaemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modulating angiogenesis in a mammal for treating diseases mediated by angiogenesis, e.g. solid tumours and vascular deficiencies of cardiac peripheral tissue, by administering antagonist or agonist of TWEAK
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                                                                                  determining the presence of a cancer in a patient. (II) or antigen CC presenting cells expressing (I) are useful for stimulating and/or CC expanding T cells expressing (I) are useful for stimulating and/or CC expanding T cells specific. For a tumour protein, by contacting T cells (CC with (I), (II) or antigen-presenting cells that express (I). (II), (II), (CC or antigen presenting cells that express (II) are useful for treating CC colon cancer in a patient by incubating CD4+ and/or CD8+ T cells isolated CC from a patient with (I), (II), or antigen presenting cells that express (II), so that T cells proliferate, and administering to the patient an CC effective amount of the proliferated T cells, thus inhibiting the CC development of a cancer in the patient. (I) or (II) is useful in CC excines and pharmaceutical compositions for prevention and treatment of CC colon cancer and for the diagnosis and monitoring of the cancers. (I), (CC (II) or an antibody against (II) is useful as a probe or primer for nucleic acid hybridisation, and in the design and preparation of ribozyme CC molecules for inhibiting expression of (II) in tumour cells. ABK29475- the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to an isolated polynucleotide (I) encoding polypeptide (II) comprising a portion of a colon tumour protein oligonucleotide (III) that hybridises to (I) is useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1; Page 133; 211pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New isolated polynucleotide encoding a polypeptide comprising a portion of colon tumour protein, for detection, diagnosis and therapy of human
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22-NOV-2000; 2000US-252614P
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lon cancer -
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Best Local Similarity

100.0%; 13.0%;

Score 179; DB 24; Length 195; Pred. No. 2.6e-73;

Query Match Best Local Similarity

5.5%; 100.0%;

Score 76; Pred. No.

DB 16; 2.8e-25;

Sequence

282

BP;

80

A; 62 C;

69 G; 66 T; 5 other;

Sequence 195

BP; 49

A; 51 C;

58 G; 37 T; 0 other;

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RESULT 11
AAT22190
A single-stranded DNA (or its complementary strand or the corresp. double-stranded DNA) which comprises one of the 7837 "GS" sequences given in AAT19001-T26837 and which is able to hybridise to part of human genomic DNA, cDNA or mRNA is claimed. The GS (Gene Signature) sequences were obtained from 3'-directed cDNA libraries prepared from various human tissues; synthesis of cDNA was initiated from the 3'-end of mRNA by using poly(T) as the sole primer. Since the 3'- untranslated sequence is unique to a particular mRNA species, almost all the 3'-oriented cDNAs hybridise with specific mRNAs. Each library is constructed so as to reflect accurately the relative abundance of different mRNAs in the particular tissue from which it was derived. The appearance frequency of a given GS in a cDNA library can be determined (esp. using primers and probes derived from the GS sequences) as a means of diagnosing abnormal cell function or for recognising different cell types.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Identifying gene signatures in 3'-directed human cDNA library for diagnosis of abnormal cell function, by preparing cDNA that reflects relative abundance of corresp. mRNA in specific human
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 1; Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1995-206931/27
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matsubara K, Okubo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (MATS/) MATSUBARA K.
(OKUB/) OKUBO K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11-NOV-1994;
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cc several oligonucleotides, each capable of hybridising selectively to a C set of messenger RNAs transcribed from a given transcription unit of the genome, which encodes one or more messenger RNA splice variants. CC The oligonucleotide libraries are useful for detecting mRNAs from a CC biological sample, in expression profiling studies, in qualitatively or CC quantitatively characterising the coorresponding transcriptome, and in CC transcriptomes. The libraries may also be used as specialised mini CC libraries to detect transcripts of a sub-transcriptome under a CC particular biological or pathological state, and so allowing the CC detection of tissue- and pathology-specific genes such as those genes CC only expressed in specific tissue under a specific pathological CC condition; to detect developmental specific penes; and to detect RNA transcripts and splice variants of a transcriptome of a patient suffering CC from a particular disorder. ABN27253 to ABN59589 represent CC oligonucleotide sequences from rats, humans and mice, which are used in CC specification, but was obtained in electronic format directly from WIPO CR at fire, who, intronblished not sequences.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New oligonucleotide libraries comprising oligonucleotides which selectively hybridize to mRNAs transcribed from a transcription a genome, useful for detecting tissue-, pathology-, and
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02-MAY-2001;
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anscriptome; oligonucleotide library;
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RESULT 13
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                                                                          biological sample, in expression profiling studies, in qualitatively or quantitatively characterising the corresponding transcriptome, and in detecting RNA transcripts and splice variants of human or animal transcriptomes. The libraries may also be used as specialised mini libraries to detect transcripts of a sub-transcriptome under a particular biological or pathological state, and so allowing the detection of tissue and pathology-specific genes such as those genes only expressed in specific tissue under a specific pathological condition; to detect developmental specific genes; and to detect RNA transcripts and splice variants of a transcriptome of a patient suffering from a particular disorder. ABN27253 to ABN59589 represent oligonucleotide sequences from rats, humans and mice, which are used in
                           the exemplification of the present invention.

N.B. The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                 messenger RNAs that populate a (sub-)transcriptome, where the (sub-)transcriptome comprises messenger RNAs transcribed from multipl transcription units that populate a genome. The library comprises several oligonuclectides, each capable of hybridising selectively to set of messenger RNAs transcribed from a given transcription unit of the genome, which encodes one or more messenger RNAs splice variants. The oligonuclectide libraries are useful for detecting mRNAs from a time oligonuclectide libraries are useful for detecting mRNAs from a
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ilarity 100.0%;
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RESULT 14
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                                                  Several oligonucleotides, each capable of hybridising selectively to a construct of the genome, which encodes one or more messenger RNA splice variants. CC The oligonucleotide libraries are useful for detecting mRNAs from a constitutively characteristing the corresponding transcriptome, and in cetecting RNA transcripts and splice variants of human or animal constructions. The libraries may also be used as specialised minimal construction of tissue- and pathological state, and so allowing the corresponding transcriptome under a corresponding transcriptome. The libraries may also be used as specialised minimal construction of tissue- and pathological state, and so allowing the corresponding transcriptome under a corresponding transcriptome under a corresponding to detect transcripts of a sub-transcriptome under a construction of tissue- and pathology-specific genes such as those genes constitutes; to detect developmental specific genes such as those genes constituely expressed in specific tissue under a specific pathological consisting to detect developmental specific genes; and to detect RNA transcripts and splice variants of a transcriptome of a patient suffering consisting the sequences from rats, humans and mice, which are used in the sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at the print of the printed of the print of the printed of the print of the printed of the print of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of
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                                                  The oligonucleotide libraries are useful for detecting mRNAs from a CD biological sample, in expression profiling studies, in qualitatively or quantitatively characterising the corresponding transcriptome, and in CD detecting RNA transcripts and splice variants of human or animal CD transcriptomes. The libraries may also be used as specialised mini CD libraries to detect transcripts of a sub-transcriptome under a CD particular biological or pathological state, and so allowing the CD condition; to detect developmental specific genes such as those genes CD condition; to detect developmental specific genes; and to detect RNA CD transcripts and splice variants of a transcriptome of a patient suffering CD condition; to detect developmental specific genes; and to detect RNA CD transcripts and splice variants of a transcriptome of a patient suffering CD condition; but was obtained in retention.

CC N.B. The sequence data for this patent did not form part of the printed constitution, but was obtained in electronic format directly from WIPO constitution, but was obtained in electronic format directly from WIPO constitutions.
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transcription units that populate a genome. The library comprises
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                          at ftp.wipo.int/pub/published_pct_sequences
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Title: Perfect score: Sequence: Database : Minimum DB seq length: 0
Maximum DB seq length: 2000000000 OM nucleic - nucleic search, using sw model Post-processing: Listing first 45 Total number of hits satisfying chosen Word size Searched: Scoring table: on :: OLIGO_NUC Gapop 60.0 , Gapext 60.0 мау 2054640 seqs, 14551402878 l atgtcattgttagactttga.....gacaaaatgttgataaatgg US-09-245-198A-3 1373 GenEmbl: * gb_ov: gb_pat: gb_ph:* gb_pl:* gb_pr:* em_htgo_hum:*
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score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Result No. Match 160340 185279 110293 159020 203281 203281 164504 1168 177555 138792 203083 234182 184026 153553 161428 177703 215795 Length BB AX201459 AX322295 AX209050 AX198506 BC032480 AX330518 BC032480 AX410097 AX381620 AX381620 AX381939 HSM802687 AX381939 HSM802687 AX36126237 AX36126237 AX36133 AC027023 AX361458 AC027023 AC027023 AC027023 AC027023 AC027023 AC027023 AC027023 AC027023 AC027023 AC027023 AC027023 AC016876 AC127470 AX379024 AC130192 AC1301915 AC069459 AL603707 AC098923 AC126921 AC126921 AC126927 AC126937 AC126237 AC126237 AC126237 AR140407 BC019047 AX180714 ALIGNMENTS AJ250723 Mus muscu AF450141 Mus muscu AC017476 Drosophil AC1130967 Rattus no AC1103343 Rattus no AC111786 Rattus no AX180714 Sequence AC016876 Homo sapi AC127470 Pan trogl AX379024 Sequence AC130192 Sus scrof AC119115 Rattus no AC069459 Mus muscu AL603707 Mouse DNA AC098923 Rattus no AC126921 Bos tauru AC126925 Canis fam Description 395 Sequence 237 Canis fam 771 Pan trogl 771 Pan trogl 772 Pan trogl 773 Felis cat 775 Sequence 775 Sequence 775 Sequence 775 Sequence 775 Sequence 775 Sequence 776 Sequence 777 Sequence Rattus no Pseudomon Homo sapi Canis fam Sequence Danio rer Homo sapi

TITLE	AUTHORS	REFERENCE			ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION	DEFINITION	LOCUS	AF030099	RESULT 1
Hession, C., Garcia, I. and Browning, J.L. TWEAK, a new secreted ligand in the tumor necrosis factor family	Chicheportiche, Y., Bourdon, P.R., Xu, H., Hsu, Y.M., Scott, H.,	1 (bases 1 to 1306)	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	Homo sapiens	Homo sapiens.		AF030099.1 GI:2707218	AF030099	Homo sapiens TWEAK mRNA, complete cds.	AF030099 1306 bp mRNA linear PRI 20-DEC-1997		

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                                                                                   AAGCCAGAATCAACAGCTCCAGCCCTCTGCGCTACAACCGCCAGATCGGGGAGTTTATAG
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/db_xref="GI:2707219"
/db_xref="GI:2707219"
/translation="MAARRSQRRRGERGEPGTALLVPLALGLGLALACLGLLLAVVSL
GSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTR
ARRALAHYEVHPRPGQDGAQACVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGL
YYVYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLIAL
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/codon start=1
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/db_xref="taxon:9606"
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Sequence
AX201324
                   1 (bases 1 to 1353)
Ashkenazi,A.J., Goddard,A., Godowski,P.J., Gurney,A.L.,
Hillan,K.J., Marsters,S.A., Pan,J., Pitti,R.M., Roy,M.A.,
Stone,D.M., Watanabe,C.K. and Wood,W.I.
Compositions and methods for the treatment of tumour
Patent: WO 0153486-A 3 26-JUL-2001;
Genentech, Inc. (US)
                                                                                                  Eukaryota;
Mammalia; E
                                                                                                                          Homo
                                                                                                                                     human
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Location/Qualifiers
1. .1353
                                                                                                  ; Metazoa; Chordata; Craniata; Vertebrata; Eutheria; Primates; Catarrhini; Hominidae
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Patent WO0153486.
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/organism="Homo sapiens" /db_xref="taxon:9606"

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KEYWORDS
SOURCE
ORGANISM
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Mammalia; Eutheria; Primates;
1 (bases 1 to 1368)
Marsters, S.A., Sheridan, J.P.,
                                                                                                                                                                                                                                                                  Submitted
South San
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AF055872
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Ashkenazi, A.
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/translation="MAARRSQRRRGERFGERFGTALLVPLALGLGLALACLGLLLAVVSL
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ARRAIAAHYEVHPPRGQDAQAGWGGTVSGWEEBATINSSSPLRVNRQLGEFIVTRAGL
ARRAIAAHYEVHPRFGGDAQAGWGGTVSGWEEBATINSSSPLRVNRQLGEFIVTRAGL
XYLYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLAL
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Francisco, CA 9408
Location/Qualifiers
                                                                                                               Apo3/DR3"
                                                                                                                                                 /gene="APO3L"
58. .807
                                                                                                                                                                                    /chromosome="17"
/map="17p13"
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/db_xref="taxon:9606"
                                                                                      /codon_start=1
                                                                                                note="TNF homolog"
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                                                                        TACTTCGGACTCTTCCAGGTTCACTGAGGGGCCCTGGTCTCCCCACAGTCGTCCCAGGCT
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Similarity 99.6%;
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complete cds.
BC019047
BC019047.1 G1
                            Homo sapiens, Simila superfamily, member
                                                BC019047
                            1651 bp mRNA Similar to tumor necrosis member 12, clone MGC:20669
                           factor (ligand)
IMAGE:4766071,
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                                              PRI 11-DEC-2001
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         ACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGG
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KEYWORDS
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NIH-MGC Project URL: http://mgc.nci.nih.gov
Contact: MGC help desk
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Louis Staudt
cDNA Library Preparation: Rubin Laboratory
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (
DNA Sequencing by: National Institutes of Health Int
Sequencing Center (NISC),
Gaithersburg, Maryland;
Tibrary Arrayland;
http://www.nisc.nih.gov/
ACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGG
                                                                           CAGGTGTGGACGGACAGTGAGTGGCTGGGAGGAAGCCAGAATCAACAGCTCCAGCCCTC 535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Clone distribution: MGC clone distribution information can through the I.M.A.G.E. Consortium/LLNL at: http://lmage.lln Series: IRAL Plate: 30 Row: p Column: 5
This clone was selected for full length sequencing because passed the following selection criteria: matched mRNA gi: 4
Location/Qualifiers
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Shevchenko,Y., Wetherby,K.D., Beckstrom-Sternberg,S.M.,

Benjamin,B., Blakesley,R.W., Bouffard,G.G., Brinkley,C., Brooks,S.,

Dietrich,N.L., Guan,X., Gupta,J., Ho,S.-L., Karlins,E., Legaspi,R.,

Lim,M., Maduro,Q.L., Masiello,C., Mastrian,S.D., McCloskey,J.C.,

McDowell,J., Pearson,R., Snyder,B., Stantripop,S., Thomas,P.J.,

Tiongson,E.E., Touchman,J.W., Tsurgeon,C., Vogt,J.L., Walker,M.A.,

Zhang,L.-H. and Green,E.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (07-DEC-2001) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
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1 (bases 1 to 1651)
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                                                                                                                                                                                                                                                                                                                                                                                                                    /product="Similar to tumor necrosis factor (ligand)
superfamily, member 12"
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a 817 c 481 g 309 t
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/tissue_type-"Primary B-Cells frc
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="Vector: 106. .510
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                                                                                                                                                                                                                                                                                            TTCAGGCACTAAGAGGGGCTGGACCTGGCCGCAGGAAGCCAAAGAGACACTGGGCCTAAGGCC 1255
                                                                                                                                                                                                                                                                                                                   ACCCCCAGGGCATTGTGTTCACTGTACTCTGTGGGCAAGGATGGGTCCAGAAGACCCCAC 1195
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                                                                                                                                                                                                                                                                                                                                                                                    TAAATACAGTATTCCCACTCTTATCTTACAACTCCCCCACCGCCCACTCTCCACCTCACT
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                                                                                                             synthetic construct.
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1 (bases 1 to 898)
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                                                                          Tweak receptor Patent: WO 0145730-A 1 28-JUN-2001: IMMUNEX CORPORATION (US)
                                                                                                     Wiley, S.R.
                                                                                                                                                              Sequence 1 from Patent WO0145730.
                                                                                                                                                       AX180714.1
                                                                                                                                                                               AX180714
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52. .873
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                                                                     Location/Qualifiers
                                                                                                                                                       GI:15132570
                           protein
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                          construct"
                                                                                                                                                                             linear
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Mammaila, Eutheria, Prim
1 (bases 1 to 177703)
Birren,B., Nusbaum,C. an
Homo sapiens chromosome,
                        Homo sapiens
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                AC016876
AC016876.5
                                                                               unordered pieces.
                                                                                         Homo sapiens clone
                                                 human.
                                                         HTG; HTGS_PHASE1;
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232 AGTTTGGGGAGCCGGGCATCGCTGTCCGCCCAGGAGCCTGCCCAGGAGGAGGAGCTGGTGGCA
                                                                                                  CAGGCAGGTGTGGACGGGACAGTGAGTGGCTGGGAGGAAGCCAGAATCAACAGCTCCAGC
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             TTCGGACTCTTCCAGGTTCACTGAG
                                                             TCCCTGCGGATCCGCACCCTCCCCTGGGCCCATCTCAAGGCTGCCCCCTTCCTCACCTAC
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                                                                                                                                                                                                                                                                                                                                                             TTCGGACTCTTCCAGGTTCACTGAG
                                                 CTGTACTGTCAGGTGCACTTTGATGAGGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTG
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Pred. No.
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GI:21313830 HASE1; HTGS_FULLTOP;

HTGS_ACTIVEFIN

Chordata; Primates; and

Craniata; Vo Catarrhini;

Vertebrata; Euteleostomi;

Hominidae;

d Lander, clone RF

177703 b RP11-186B7,

, bp

DNA linear HTG 00 SEQUENCING IN PROGRESS

06-AUG-2002 S ***, 10

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Birren,B., Nusbaum,C., Lander,E., Ali,A., Allen,N., Anderson,S., Barna,N., Bastien,V., Bloom,T., Boguslavkiy,L., Boukhgalter,B., Camarata,J., Chang,J., Chazaro,B., Choepel,Y., Collymore,A., Cook,A., Cooke,P., DeArellano,K., Dewar,K., Diaz,J.S., Dodge,S., Faro,S., Ferreira,P., FitzGerald,M., Gage,D., Galagan,J., Faro,S., Gord,S., Graham,L., Grand-Pierre,N., Hagos,B., Horton,L., Hulme,W., Illev,I., Johnson,R., Jones,C., Kamat,A., Karatas,A., Kellagan, I., Illev,I., Johnson, R., Johns
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All repeats were identified using RepeatMasker: Smit, A.F.A. & Green, P. (1996-1997) http://ftp.genome.washington.edu/RM/RepeatMasker.html
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NOTE: This is a 'working draft' sequence. It currently consists of 10 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will
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be preserved
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Center clone name: 186_B_7
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125021 125120: gap of 100 bp
125121 145109: contig of 19989 bp in length
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2E 1 (bases 1 to 215795)

RS Akhter,N., Antonellis,A., Ayele,K., Beckstrom-Sternberg,S.M., Benjamin,B., Blakesley,R.W., Bouffard,G.G., Breen,K., Brinkley,C., Brooks,S., Dietrich,N.L., Granite,S., Guan,X., Gupta,J., Haghighi,P., Hansen,N., Ho,S.-L., Idol,J.R., Karlins,E., Laric,P., Haghighi,P., Hansen,N., Ho,S.-L., Idol,J.R., Karlins,E., Laric,P., Haghighi,S.-Q., Legaspi,R., Maduro,Q.L., Maduro,V.B., Margulies,E.H., Masiello,G., Maskeri,B., Mastrian,S.D., McCloskey,J.C., McDowell,J.J., Paguinigan,C., Pearson,R., Portnoy,M.E., Prasad,A., Schueler,M.G., Stantripop,S., Thomas,J.W., TBurgeon,C., Vogt,J.L., Walker,M.A., Wetherby,K.D., Wiggins,L., Young,A., Zhang,L.-H. and Green,E.D. NISC Comparative Sequencing Initiative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (17-JUL-2002) NIH Intramural Sequencing Center, 8717. Grovemont Circle, Gaithersburg, MD 20877, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Green, E.D.
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HTG; HTGS_PHASE1; HTGS_DRAFT.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 chimpanzee.
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                                                                                                                                                                                                                                                                                                                                                  NOTE: This is a 'working draft' sequence. It currently consists of 15 contigs. The true order of the pleces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequencing vector: plasmid: n/a; 100% of reads Chemistry: Dye-terminator Big Dye; 100% of reads Assembly program: Phrap; version 0.990319 Consensus quality: 20585 bases at least Q40 Consensus quality: 20685 bases at least Q30 Consensus quality: 209181 bases at least Q30 Consensus quality: 209181 bases at least Q20 Insert size: 190000; agarose-fp Insert size: 214395; sum-of-contigs Quality coverage: 7.30x in Q20 bases; sum-of-contigs Quality coverage: 6.47x in Q20 bases; sum-of-contigs
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----- Summary Statistics
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Contact: nisc_zoo@nhgri.nih.gov
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                                                       CATTGTGTTCACTGTACTCTGTGGGCAAGGATGGGTCCAGAAGACCCCCACTTCAGGCACT 76
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                                                                                                                                                                                                                                                                                                           Compositions and methods
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Akhter, N., Antonellis, A., Ayele, K., Beckstrom-Sternberg, S.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (08-AUG-2002) NIH Intramural Sequencing Grovemont Circle, Gaithersburg, MD 20877, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Direct Submission
                                                                                                                                                                                                                                                                                     NOTE: This is a 'working draft' sequence. It currently consists of 10 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
                                                                                                                                                                                                                                      as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequencing vector: plasmid; n/a; 100% of reads Chemistry: Dye terminator Big Dye; 100% of read Assembly program: Phrap; version 0.990319
Consensus quality: 164120 bases at least Q40 Consensus quality: 168085 bases at least Q30 Consensus quality: 170767 bases at least Q20 Insert size: 169000; agarose-fp Insert size: 176655; sum-of-contigs Quality coverage: 4.57x in Q20 bases; sum-of-co
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          3461
3561
6870
6970
13466
13566
21302
21402
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Center clone name: 436K21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: nisc_zoo@nhgri.nih
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Web site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Center: NIH Intramural Sequencing Center Center code: NISC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----- Project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                177555
clone RP44-436K21,
3460: contig of 3460 bp in length
3560: gap of unknown length
6869: contig of 3309 bp in length
6969: gap of unknown length
13465: contig of 6496 bp in length
13565: gap of unknown length
21301: contig of 7736 bp in length
21401: gap of unknown length
33719: contig of 12318 bp in length
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    Summary Statistics

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E, 10 unordered
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                                ORGANISM
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Rattus norvegicus clone CH230-320N23,
***, 32 unordered pieces.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                             Rattus norvegicus
                                                        HTG; HTGS_PHASE1.
                                                                      AC119115.2 GI:21746718
                                                                                   AC1191:
                                         Norway rat
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/db_xref="taxon:9823"
/clone="RP44-436K21"
/clone_lib="RP44"
1..3460
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1 46997 c 46681 g 41924 t
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76771. .115165
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21402. .33719
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177555: contig of 62290 bp
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24: contig
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                                                                                                                                                                                                                                                                                                                                                           Score 145; DB 2;
; Pred. No. 3.6e-69;
0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gf unknown length
gf of 13570 bp in
if unknown length
if of 17846 bp in
if unknown length
g of 38395 bp in
g of 38395 bp in
g of 38395 bp in
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Homsi,F., Howard,S., Huber,J., Hulyk,S., Hume,J., Jackson,L.E.,
Jacobson,B., Jia,Y., Johnson,R., Jolivet,S., Joudah,S.,
Karlsson,E., Kelly,S., Khan,U., King,L., Korvah,J., Kovar,C.,
Karlsson,E., Kelly,S., Khan,U., King,L., Korvah,J., Kovar,C.,
Karlsson,E., Lichtarge,O., Lieu,C., Liu,J., Liu,W., Louiseged,H.,
Lozado,R.J., Lu,X., Lucier,A., Lucier,R., Luna,R., Ma,J.,
Lozado,R.J., Lu,X., Lucier,A., Martindale,A., Martinez,E.,
Maheshwari,M., Mapua,P., Martin,R., Martindale,A., Martinez,E.,
Massey,E., Mawhiney,E., McLeod,M.P., Meador,M., Mei,G., Metzker,M.,
Miner,G., Miner,Z., Mitchell,T., Mohabbat,K., Morgan,M., Morris,S.,
Moser,M., Neal,D., Newtson,J., Newtson,N., Nguyen,N., Nguyen,N.,
Nguyen,N., Oviedo,R., Pace,A., Payton,B., Peery,J., Perez,L.,
Peters,L., Pickens,R., Primus,E., Pu,L.L., Quiles,M., Ren,Y.,
Rives,M., Rojas,A., Rojubokan,I., Rolfe,M., Ruiz,S., Savery,G.,
Scherer,S., Scott,G., Shen,H., Shooshtari,N., Sisson,I.,
Sodergren,E., Sonalke,T., Sparks,A., Stanley,H., Stone,H.,
Sutton,A., Svatek,A., Tabor,P., Tamerisa,A., Tamerisa,K., Tang,H.,
Tansey,J., Taylor,C., Taylor,T., Telfrod,B., Thomas,N., Thomas,S.,
Wang,S., Ward-Moore,S., Warren,R., Washington,C., Watlington,S.,
Williams,G., Williamson,A., Water,R., Wang,O.,
Williams,G., Williamson,A., Walson,D., Vinson,R., Wang,O.,
Williams,G., Williamson,A., Viezzyk,R., Wooden,S., Worley,K.,
Wu,C., Zhou,J., Zorrilla,S., Wolson,D., V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
Direct Submission
Submitted (18-JUL-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, Tx 77030, USA
Baylor Plaza, Houston, Tx 77030 version replaced g1:20303440.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Direct Submission
Submitted (25-APR-2002) Human Genome Sequencing Center, Depai of Molecular and Human Genetics, Baylor College of Medicine, Baylor Plaza, Houston, TX 77030, USA (bases 1 to 138792)
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Buhay, C., Burch, P., Burkett, C., Burrell, K.L., Byrd, N.
Carron, T.F., Carter, M., Cavazos, S.R., Chacko, J., Chav
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Weinstock,G. and Gibbs,R.
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Chemistry: Dye-terminator Big Dye: 100% of reads Assembly program: Phrap; version 0.990329
Consensus quality: 112720 bases at least Q40
Consensus quality: 116666 bases at least Q30
Consensus quality: 119165 bases at least Q20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Web site: http://www.hgsc.bcm.tmc.edu/Contact: hgsc-help@bcm.tmc.edu
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                                                                                                                                                                                                                                                                                  Center project name: GUXG center clone name: CH230-320N23 ---- Summary Statistics Sequencing vector: Plasmid;
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NOTE: Estimated

insert size may differ from sequence length

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FEATURES
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NOTE: This is a 'working draft' sequence. It currently consists of 32 contigs. The true order of the pieces is not known and their order in this sequence record is
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AC069459.23 GI:14547768
HTG; HTGS_PHASE1; HTGS_D)
                                                                                                                                                                                                                                      submitted (31-MAY-2000) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA On Jun 25, 2001 this sequence version replaced gi:12621364.
                                                                                                                                                                                                                                                                                                 Worley, K.C.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Metzker, M.L., Lewis, L.R., Hume, J., Edwards, C., Harris, C., Dederich, D., Thomas, S., Okwuonu, G., Carlock, C., Garner, T., Addison, S., Pace, A., Williams, G., Bonnin, D., Brooks, A., Brown, J., Buhay, C., Bunac, C., Burkett, C., Chacko, J., Chen, G., Chen, Z., Cox, C., Dayis, C., Delgado, O., Ding, Y., Dugan-Rocha, S., Cox, C., Dayis, C., Delgado, O., Ding, Y., Dugan-Rocha, S.,
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Mus musculus chromosome 11 clone
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
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Sequencing vector: M13: 1.08821
Chemistry: Dye-primer Bodipy: 48% of reads
Chemistry: Dye-terminator Big Dye: 52% of rea
Assembly program: Phrap; version 0.990329
Consensus quality: 212648 bases at least Q40
Consensus quality: 218902 bases at least Q30
Consensus quality: 222384 bases at least Q20
                                                                                                                                                web site: http://www.hgsc.bcm.tmc.edu/
Contact: hgsc-help@bcm.tmc.edu
                                                                                                                    Center project name: MAFO Center clone name: RP23-168P5
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/db_xref="taxon:10116"
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Kelly, S.,

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Submitted (17-NOV-2001) Wellcome Trust Sanger Institute, Hinxton, Submitted (17-NOV-2001) ISA, UK. E-mail enquiries:
Cambridgeshire, CB10 ISA, UK. E-mail enquiries:
humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk
On NOV 20, 2001 this sequence version replaced gi:16605765.
During sequence assembly data is compared from overlapping clones.
Where differences are found these are annotated as variations
together with a note of the overlapping clone name. Note that the
variation annotation may not be found in the sequence submission
                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mouse DNA sequence from clone
                                                                                                                                                                                                                                                                                                                                                                Pearce, A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AL603707.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     complete sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        house mouse
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NOTE: This is a 'working draft' sequence. It currently consists of 7 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will
                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     52662 a
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167332
189908
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118773
118873
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/chromosome="11"
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118772:
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2: gap of unknown length
2: contig of 56520 bp in length
4: contig of 30052 bp in length
4: contig of 30052 bp in length
4: gap of unknown length
1: contig of 18207 bp in length
1: contig of 2576 bp in length
7: contig of 2576 bp in length
7: contig of 6530 bp in length
7: contig of 6530 bp in length
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Pred. No. 1.4e-54;
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Best Local
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            MIZINJO, M., Adams, C., Adio-Oduola, B., Ali-osman, F.R., Allen, C.,
Alsbrooks, S.L., Amaratunge, H.C., Are, J.R., Ayele, M., Banks, T.,
Barbaria, J., Benton, J., Bimage, K., Blankenburg, K., Bonnin, D.,
Bouck, J., Bowle, S., Brieva, M., Brown, E., Brown, M., Bryant, N.P.,
Buhay, C., Burch, P., Burkett, C., Burrell, K.L., Byrd, N.C.,
Carron, T.F., Carter, M., Cavazos, S.R., Chacko, J., Chavez, D.,
Chen, G., Chen, R., Chen, Z., Chowdhry, I., Christopoulos, C.,
Cleveland, C.D., Cox, C., Coyle, M.D., Dathorne, S.R., David, R.,
Davila, M.L., Davis, C., Davy-Carroll, L., Dederich, D.A.,
Delaney, K.R., Delgado, O., Denn, A.L., Ding, Y., Dinh, H.H.,
Douthwaite, K.J., Draper, H., Dugan-Rocha, S., Durbin, K.J.,
Earnhart, C., Edgar, D., Edwards, C.C., Elhaj, C., Escotto, M.,
Frantz, P.,
Fralls, T., Ferraguto, D., Flagy, N., Ford, J., Foster, P., Frantz, P.,
Frantz, N., Galll, R.,
Garner, T., Garza, N., Gill, R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one Ml3 subclone; and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em:, EMBL; SW:, SWISSPROT; Tr., TREMBL; Mp:, WORMPEP; Information on the WORMPEP database can be found at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rattus norvegicus
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rattus norvegicus clone CH230-154B15, ****, 71 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HTG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AC098923.5 GI:21729926
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Norway rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AC098923
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for further details see http://www.chori.org/bacpac/home.htm
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
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/clone_lib="RPC1-23"
/clone_lib="RPC1-23"
complement(84050. .84131)
complement(84050. .84131)
/note="Sequence from uni-directional primer reads and dGTP
big dye terminator reads only."
a 56824 c 57519 g 60529 t
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/chromosome="11"
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Gao, J., Garcia, A., Garner, T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .234182
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Pred. No. 1.4e-54
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 (bases 1 to 184026)
Worley, K.C.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (12-JUL-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA On Jul 11, 2002 this sequence version replaced gi:17973852.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (06-NOV-2001) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA 3 (bases 1 to 184026)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Worley, K.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unpublished
2 (bases 1
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                                                                                                                  NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html).

NOTE: This is a 'working draft' sequence. It currently consists of 71 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown.

This record will be updated with the finished sequence.
                                                                                             as soon as it is available be preserved.
                                                                                                                                                                                                                                          Sequencing vector: Plasmid;
Chemistry: Dye-terminator Big Dye: 100% of reads
Assembly program: Phrap; version 0.990329
Consensus quality: 109715 bases at least Q40
Consensus quality: 115369 bases at least Q30
Consensus quality: 121073 bases at least Q30
                                                                                                                                                                                                                                                                                                                                                    Center: Baylor College of Medicine
Center code: BCM
Web site: http://www.hgsc.bcm.tmc.c
                                                                                                                                                                                                                                                                                                                                          Center clone name: CH230-154B15
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RS Akhter, N., Antonellis, A., Ayele, K., Beckstrom-Sternberg, S.M.,
Benjamin, B., Blakesley, R.W., Bouffard, G.G., Breen, K., Brinkley, C.,
Benjamin, B., Blakesley, R.W., Bouffard, G.G., Breen, K., Brinkley, C.,
Brooks, S., Dietrich, N.L., Granite, S., Guan, X., Gupta, J.,
Haghighi, P., Hansen, N., Ho, S.-L., Idol, J.R., Karlins, E., Laric, P.,
Haghighi, P., Hansen, N., Ho, S.-L., Idol, J.R., Karlins, E., Laric, P.,
Haghighi, P., Hansen, N., Ho, S.-L., Maduro, V.B.,
Margulies, E.H., Mastello, C., Makeri, B., Mastrian, S.D.,
McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R.,
Portnoy, M.E., Prasad, A., Schueler, M.G., Stantripop, S., Thomas, J.W.,
Thomas, P.J., Touchman, J.W., Tsurgeon, C., Vogt, J.L., Walker, M.A.,
Wetherby, K.D., Wiggins, L., Young, A., Zhang, L.-H. and Green, E.D.
NISC Comparative Sequencing Initiative
                                                            Direct Submission
Submitted (10-JUL-2002) NIH Intramural Sequencing Center, 8717
Grovemont Circle, Gaithersburg, MD 20877, USA
                                                                                                                                                                                                                                                                                                                                                                                                    AC126921.1 GI:21724098
HTG; HTGS_PHASE1; HTGS_DRAFT
                                                                                                                   Green, E.D.
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Bovidae; Bovinae; Bos.
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Bos taurus clone RP42-45D24,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NOTE: This is a 'working draft' sequence. It currently consists of 12 contigs. The true order of the pieces is not known and their order in this sequence record is
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be preserved.
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Center clone name: 045D24
Center Summary Statistics
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                            /note="assembly_fragment"
56691. .73769
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/note="assembly_fragment"
73870. .90859
                                                                    /note-"assembly_fragment'
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40970: contig
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9: contig
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Command line parameters:

-MODEL-frame+_p2n.model -DEV=xlp
-MODEL-frame+_p2n.model -DEV=xlp
-Q-cgn2_1/USPTO_Spool_US9245198/runat_06052003_170239_9628/app_query.fasta_1.846
-DB-EST -QFMT-fastap -SUFFIX-rst -MINMATCH-0.1 -LOOPCL-0 -LOOPEXT-0
-UNITS-blts -START-1 -END=-1 -MATRIX-blosum62 -TRANS-human40.cdi -LIST-45
-DCCALIGN-200 -THR_SCORE-pct -THR_MAX-100 -THR_MIN-0 ALIGN-15 -MODE-LOCAL
-OUTFMT-Pto -NORM-ext -HEAPSIZE-500 -MINLEN-0 -MAXLEN-200000000
-USER-0509245198_CGN1_1_1_2375_@runat_06052003_170239_9628 -NCPU-6 -ICPU-3
-NO_MAPA -LARGEGUERY -NGE_SCORES-0 -WAIT -DSPBLOCK-100 -LONGLOG
-DEV_TIMEOUT-120 -WARN_TIMEOUT-30 -THREADS-1 -XGAPOP-10 -XGAPEXT-0.5 -FGAPOP-6
-FGAPEXT-7 -YGAPOP-10 -YGAPEXT-0.5 -DELOP-6 -DELEXT-7
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Maximum Match 100%
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Copyright (c) 1993 - 2003 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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4-4	43.	21.0	639	10	162444 B64232	42326 BB642326

ALIGNMENTS

AUTHORS TITLE		ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION		DEFINITION	LOCUS	RESULT 1 BF577781	
I (pases 1 to 918) NIH-MGC http://mgc.nci.nih.gov/. National Institutes of Health, Mammalian Gene Collection (MGC)	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.	Mus musculus	house mouse.	EST.	BF577781.1 GI:11651493	BF577781	mRNA sequence.	isculus cDNA clone II	BF577781 918 bp mRNA linear EST 12-DEC-2000		

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Email: Grapbs-remail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM9767 row: p column: 20
High quality sequence start: 17
High quality sequence stop: 724.
Location/Qualifiers
GlyTrpGluGluThrLysIleAsnSerSerSerProLeuArgTyrAspArgGlnIleGly 127
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGAAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGAACGGTGTGCTGGCCCCTGCGCTGC
                                                                   GlyLysAlaValTyrLeuLysLeuAspLeuLeuValAsnGlyValLeuAlaLeuAlagCys
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/clone_lib="NCI_CGAP_CO24"
/clone_lib="NCI_CGAP_CO24"
/lab_host="DH10B [T1 phage-resistant)"
/note="Organ: colon; Vector: pCMV-SPORT6; Site_1: NotI
Site_2: Sali; Cloned unidirectionally, primer: Oligo
Average insert size 1.6 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library."
a 292 c 268 g 204 t 1 others
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/strain="FVB/N"
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TCGGAACTGAATCCCCAGACAGAAGAAGACCAGGATCCTGCGCCTTTCCTGAACCGACTA
                                                                    LeuSerAla---GlnGluProSerGlnGluCeuThrAlaGluAspArgArgGluPro
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                                                       CTGTCCGCCCAGCAGGAGCCTGCCCAGGAGGAGCTGGTGGCAGAGGAGGACCAGGACCCG
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Plate: LLAM12034 row: b column: 07
High quality sequence stop: 728.
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Tissue Procurement: ATCC
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NIH-MGC http://mgc.nci.nih.gov/.
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Mammalia; 1
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                                                                                                                                                                                                                                                                                                                                         /tissue_type="adenocarcinoma, cell line"
/lab_host="DH10B (phage-resistant)"
/note="Organ: liver; Vector: pCMV-SPORT6; Site_1: Not1;
Site_2: Sall; Cloned unidirectionally; oligo-dT primed.
Average insert size 1.7 kb. Library enriched for full-length clones and constructed by Life Technologies Note: this is a NHL_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:5405478"
/clone_lib="NIH_MGC_90"
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Primates;
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                                                                                    CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM12034 row: a column: 12
High quality sequence stop: 728.
Location/Qualifiers
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Tissue Procurement: ATCC
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Contact: Robert Strausberg, Ph.D.
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National Institutes of Health,
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/tissue_type="adenocarcinoma, cell line"
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                               /organism="Homo sapiens"
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/clone="IMAGE:5405459"
/clone_lib="NIH_MGC_90"
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Site_2: Sall; Cloned unidirectionally; oligo-dT primed. Average insert size 1.7 kb. Library enriched for full-length clones and constructed by Life Technologies Note: this is a NIH_MGC Library."

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Length: Matches:

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US-09-245-198A-2 (1-225) x BI870393
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                                                                                                                                                                                                                                                                                                                                                                                             Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail.nih.gov
Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be.
Clone distribution: MGC clone distribution information can be.
http://image.lihl.gov
plate: LLAMI1437 row: 1 column: 03
High quality sequence stop: 759.
Incation/Qualifiers
TACCTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTG
                      GCGCCTTTCCTGAACCGACTAGTTCGGCCTCGCAGAAGTGCACCTAAAGGCCGGAAAACA 133
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                                                                                                   SerProLeuArgTyrAspArgGlnIleGlyGluPheThrValIleArgAlaGlyLeuTyr
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National Institutes of Health, Mammalian Gene
Unpublished (1999)
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1 (bases 1 to 777)
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89.89%
75.90%
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.

Bult-MgC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

Unpublished (1999)

Contact: Robert Strausberg, Ph.D.

Email: cgapbs-r@mail.nih.gov

Tissue Procurement: Miklos Palkovits, M.D., Ph.D.

cDNA Library Preparation: Michael J. Brownstein (NHGRI), Shiraki
Toshiyuki and Piero Carninci (RIKEN)

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can be
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                                      1.18e-80
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94.44%
91.67%
74.10%
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                                                                                                                                                                                  Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                      NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
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                                                                                                            found through the I.M.A.G.E. Consontty://image.llnl.gov
Plate: LLAM11517 row: c column:
High quality sequence stop: 772.
Location/Qualifiers
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                                                                                                     . 834
  NotI;
pooled lung and spleen; Vector: pCMV-:
Site_2: EcoRV (destroyed); RNA source
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Mus musculus Eukaryota; M

Metazoa;

Chordata; Craniata; Vertebrata; Euteleostomi;

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Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Lothar Hennighausen Ph.D., Chu-Xia Deng Ph.D.

CDNA Library Preparation: Life Technologies, Inc.

cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Washington University Genome Sequencing Center.

Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MGI:1058389
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Other_ESTs: ur70d09.x1
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Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="Organ: mammary; Vector: pCMV-SPORT6; Site_1: Sall; Site_2: NotI; Cloned unidirectionally. Primer: Oligo dT. Library constructed by Life Technologies. Investigators providing samples: Lothar Hennighausen/Chu-Xia Deng, NIH Reference for transgenic model: Xu et al., Nature Genetics 22, 37-43 (1999)."

158 c 194 g 100 t 1 others
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/clone_11b="NCI_CGAP_Mam3"
/tlssue_type="tumor, gross tissue"
/dev_stage="10 months"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /strain="129,C57BL/6J,FVB/N"
/db_xref="taxon:1000"
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62 83 ProProGluLeuAsnProGlnThrGluGluSerGlnAspValValProPheLeuGluGln

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cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLCM2466 row: n column: 17
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BQ707185
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High quality sequence stop: 550
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Mark Watson
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National Institutes of Health, Mammalian
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                                                                                                                                                                                                                                                                                                                                  /clone_lib="NIH_MGC_113"
//lab_host="pH10B (phage resistant)"
//lab_host="pH10B (phage resistant)"
//lab_host="pH10B (phage resistant)"
//lab_host="phi0B (phage resistant)"
//lab_host="phi0B (phi0B); Site_1: XhoI; Site_2: Phi0B (phi0B); Site_1: XhoI; Site_2: Phi0B (phi0B); Site_1: XhoI; Site_2: Phi0B (phi0B); Site_1: XhoI;                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="taxon:9606"
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                                                                                                                      Email: capbs:remail.nih.gov
Tissue Procurement: Dr. James R. Lupski
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information car
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM13607 row: J column: 17
                                                                                                                                                                                                                                                                                                                                                           BQ884231 940 bp mRNA linear EST 16-AUG AGENCOURT_8682031 Lupski_sciatic_nerve Homo sapiens cDNA clone IMAGE:5197488 5', mRNA sequence.
                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
1 (bases 1 to 940)
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National Institutes of Health, Mammalian
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                                                                                                          quality sequence stop: 453.
Location/Qualifiers
          /tissue_type="sciatic nerve"
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                                                    /organism="Homo sapiens"
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/clone="IMAGE:6197488"
/clone_lib="Lupski_sciatic_nerve"
                                           /sex="male"
                                                                                                                                                                                                                                                                                                                                          GI:22276239
 pCMV-SPORT6 (Life Technologies);
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5', mRNA sequence.
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325 c 255 g 190 t
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Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

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LeuCysGlnValSerGlyLeuLeuProLeuArgProGlySerSerLeuArgIleArgThr 204
                                                                                                                                  LeuArgCysLeuGluGluPheSerAlaThrAlaAlaSerSerProGlyProGlnLeuArg 184
                                                                                                                                                                                                                                                                 PheAspGluGlyLysAlaValTyrLeuLysLeuAspLeuLeuValAsnGlyValLeuAla 164
                                                                                                                                                                                                                                                                                                                                                                                                GlnIleGlyGluPheThrValIleArgAlaGlyLeuTyrTyrLeuTyrCysGlnValHis 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ThrValSerGlyTrpGluGluThrLysIleAsnSerSerSerProLeuArgTyrAspArg 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AlaHisTyrGluValHisProArgProGlyGlnAspGlyAlaGlnAlaGlyValAspGly 104
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Contact: Robert Strausberg, Ph.D.
Email: cyapbs remail.nih.gov
Tissue Procurement: ATCC
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CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
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National Institutes of Health, Mammalian Gene Collection (MGC)
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High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999)
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                                                         annotation of a full-length mouse cDNA collection
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Please visit our web site (http://genome.gsc.riken.go.jp/) for further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Adachi, J., Aizawa, K., Akahira, S., Akimura, T., Aono, H., Arai, A., Arakawa, T., Baldarelli, R., Bono, H., Brownstein, M., Bult, C., Carninci, P., Fukuda, S., Fukunishi, Y., Furuno, M., Hanagaki, T., Hara, A., Hayatsu, N., Hill, D., Hiramoto, K., Hiraoka, T., Hori, F., Hume, D., Imotani, K., Ishii, Y., Itoh, M., Izawa, M., Kasukawa, T., Kato, H., Kawai, J., Kojima, Y., Konno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Myazaki, A., Nishi, K., Nomura, K., Kurihara, C., Matsuyama, T., Myazaki, A., Nishi, K., Quackenbush, J., Saito, R., Sakai, C., Sakai, K., Sano, H., Sasaki, D., Schriml, L., Shibata, K., Shibata, Y., Shibata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     with BamHI and XhoI. Vector: a modified pBluescript KS(+) after bulk excision from Lambda FLC I. Cloning sites, 5' end: Sall; 3 end: BamHI. Host: DH10B. Retina RNA was provided by Stefano Gustincich (Department of Neurobiology, Harvard Medical School, Longwood Ave., Boston, MA 02115, USA) whose assistance is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Neurobiology, Harvard Medical 02115, USA) whose assistance
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Hayashizaki,Y.
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                                   /translation="IAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLRYDRQI
GEFTVIRAGLYYLYCQVHFDEGKAVYLKLDLLVNGVLALRCLEEFSATAASSPGPQLR
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/clone_lib="RIKEN full-length enriched mouse cDNA library"
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"CQVSGLLPLRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH"
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                                                                                Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
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http://image.llnl.gov
plate: LLAM12786 row: p column:
High quality sequence stop: 656.
Location/Qualifiers
                                                                                                                                                                                               NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene
Unpublished (1999)
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Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                  5', mRNA sequence.
BQ674188
BQ674188.1 GI:21785022
                                                                                                AGENCOURT_8354100 NIH_MGC_102
5', mRNA sequence.
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                                            numan.
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/clone_lib="NIH_MGC_115"
/lab_host="DH10B"
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/db_xref="taxon:9606"
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US-09-245-198A-2 (1-225) x BQ674188
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Best Local Similarity:
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204 rLeuProTrpAlaHisLeuLysAlaAla-ProPheLeuThrTyrPheGlyLeuPhe
                                                                                                                                                                                                                                                                                                                                                         AlaHisTyrGluValHisProArgProGlyGlnAspGlyAlaGlnAlaGlyValAspGly 104
                                                            LeuCysGlnValSerGlyLeuLeuProLeuArg-ProGlySerSerLeuArgIleArgTh
                                                                                                                                        LeuArgCysLeuGluGluPheSerAlaThrAlaAlaSerSerProGlyProGlnLeuArg
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov http://image.llnl.gov d column: 01
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cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MCC clone distribution information can
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /tissue_type="epidermoid carcinoma, cell line"
/lab_host="DH10B (phage-resistant)"
/note="Organ: sallvary gland; Vector: pOTB7; Site_1: xhoI;
Site_2: EcoRI; cDNA made by oligo-dT priming.
Directionally cloned into EcoRI/XhoI sites using the
following 5' adaptor: GGCACGAG(G). Library constructed
by Ling Hong in the laboratory of Gerald M. Rubin
(University of California, Berkeley) using ZAP-cDNA
synthesis kit (Stratagene) and Superscript II RT (Life
Technologies). Note: this is a NIH_MGC Library."
65 a 286 c 315 g 184 t 1 others
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/clone="IMAGE:6275664"
/clone_lib="NIH_MGC_102"
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                                         ValTyrLeuLysLeuAspLeuLeuValAsnGlyValLeuAlaLeuArgCysLeuGluGlu 170
                                                                                                                                                    GluThrLysIleAsnSerSerSerProLeuArgTyrAspArgGlnIleGlyGluPheThr 130
                                                                                                                                                                                                           ProArgProGlyGlnAspGlyAlaGlnAlaGlyValAspGlyThrValSerGlyTrpGlu
                                                                                               ValileArgAlaGlyLeuTyrTyrLeuTyrCysGlnValHisPheAspGluGlyLysAla
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                                                                                GTCATCAGGGCTGGGCTCTACTACCTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCA
                                                                                                                                     GAGACCAAAATCAACAGCTCCAGCCCTCTGCGCTATGACCGCCAGATTGGGGAATTTACG
                                                                                                                                                                                              AW917574 584 bp mRNA EST348878 Rat gene index, normalized rat, Rattis norvegicus cDNA clone RGIEF49 5' e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: nhiee@tigr.org
This clone is available through the ATCC,
tel#703-365-2700 for further information
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Fax: (301)-838-0208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The Institute for Genomic Research 9712, Medical Center Drive, Rockville,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished (1998)
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Kerlavage,A.R. and Adams,M.D.
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/db_xref="taxon:10116"
/clone="RatEF19"
/clone_lib="Rat gene index, normalized rat, norvegicus,
Bento Soares"
                                                                                                                                                                                                                                                                                                                                                                                                      /note="Vector: pBlueScript SK(-); Site_1:
Xho1; Estimated insert size approx.1 kb"
1: 188 c 147 g 138 t 3 others
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/lab_host="SOLR"
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muscle, spleen"
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LysalaalaProPheLeuThrTyrPheGlyLeuPheGlnValHis 225
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Contact: Marra M/Mouse EST Project
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Marra, M., Hillier, L., Allen, M., Bowles, M., Dietrich, N., Dubu
Marra, M., Hillier, L., Allen, M., Bowles, M., Dietrich, N., Geisel, S., Kucaba, T., Lacy, M., Le, M., Wartin, J., Morris, M.,
Schellenberg, K., Steptoe, M., Tan, F., Underwood, K., Moore, B.,
Theising, B., Wylle, T., Lennon, G., Soares, B., Wilson, R. and
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vq25g07.rl Barstead
clone IMAGE:1095324
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Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WashU-HHMI Mouse EST Project
Washington University School of MedicineP
4444 Forest Park Parkway, Box 8501, St. L
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                                                                                                                                                                                                    characteristic muscle proteins.
                                                                                                                                                                                                                             Library constructed by Bob Barstead. The C2C12 ce (available from ATCC, catalog # CRL-1772) different rapidly, forming contractile myotubes and producing
                                                                                                                                                                                                                                                                                                        3']; double-stranded cDNA was ligated to Eco RI adaptors [AATTCGGATCCTTG], digested with Not I and cloned into the Not I and Eco RI sites of the modified pT773 vector. Source undifferentiated tissue culture cell line C2C12.
                                                                                                                                                                                                                                                                                                                                                                                                   /clone_lib="Barstead stromal cell line
/cell_line="C2C12 (undifferentiated)"
/lab_host="DH10B"
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/db_xref="taxon:10090"
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016727 homo sapien
Q9uq01 homo sapien
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Q96t58 homo sapien
Q96tn7 oryza sativ
Q9aa15 caulobacter
Q9hurB pseudomonas
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ALIGNMENTS

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Q9HUR8

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RESULT 2
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RA Mount S.M., Molson K.A., Nixon K., Nusskern D.M., Nelson D.L.,
RA Nelson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
RA Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
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RA Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
RA Syleskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
RA Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
RA Zheng X.H., Zhong E.N., Zhong M., Zhang G., Zhao Q., Zheng L.,
RA Zheng X.H., Zhong F.N., Rubin G.M., Venter J.C.,
RT "The genome sequence of Drosophila melanogaster.";
RL Science 287:2185-2195(2000).
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Best Local Similarity
                      MEDLINE=21681879; pubMed=11823852;
Salanoubat M., Genin S., Artiguenave F., Gouzy J., Mangenot S., Arlat M., Billault A., Brottler P., Camus J.C., Cattolico L., Chandler M., Chisne N., Claudel-Renard C., Cunnac S., Demangė N Gaspin C., Lavie M., Moisan A., Robert C., Saurin W., Schiex T., Siguier P., Thebault P., Whalen M., Wincker P., Levy M., Weissenbach J., Boucher C.A.;
"Genome sequence of the plant pathogen Ralstonia solanacearum.";
Nature 415.497-502(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plasmid megaplasmid.
Bacteria; Proteobacteria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ralstonia solanacearum (Pseudomonas solanacearum).
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SMART; SM00207; TNF; 1.
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Liu X., Mattei B.
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   AL646082;
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23.1%; Pred. No. 0.046;
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Matches 33
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01-JUN-2001
01-JUN-2001
01-MAR-2002
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                                                                                                                                                                                                                   Hypothetical protein; Complete proteome. SEQUENCE 210 AA; 22344 MW; 8B9830ADFBF7F45C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUN-2001 (TrEMBLrel. 17, 01-MAR-2002 (TrEMBLrel. 20, Hypothetical protein CC1168.
                                                                                                                                                                                                                                                   EMBL; AE005794; AAK23152.1; TIGR; CC1168; -.
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                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN-ATCC 19089 / CB15;
MEDLINE-21173698; PubMed-11259647;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bactería;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Caulobacter crescentus
149
                           118
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EGFDFD 154
                                                                                                                                  LSLGLALACLGLLLVVVSLGSWATLSAQEPSQEELTAEDRREPPELNPQTEESQDVVPFL
                           SPLRYD 123
                                                                            EQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGV----DGTVSGWEETKINSS
                                                                                                         LRLGLAVFAAGVAATVIVQAAWRSLASSKLQTQAATAPLVLDKPRF---TGVLKDGRPFL
                                                    ITAERAERDAKDQNIVRLTAPLLVRGYGEPNPSQATAKSGVYREAENTLLLTDEVKITSA
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62; Conserv
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26.6%; Pred
                                                                                                                                                               7.8%; Score 90.5; D; 26.2%; Pred. No. 1.1; tive 19; Mismatches
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17,
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Pred. No. 2;
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C STRAIN=ATCC 15692 / PAO1;

X MEDLINE=20437337; PubMed=10984043;

X MEDLINE=20437337; PubMed=10984043;

A Stover C.K., Pham X.-Q.T., Erwin A.L., Mizoguchi S.D., Warrener A. Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagra A. Hickey M.J., Brinkman F.S.L., Folger K.R., Westbrock-Wadman S., Yuan Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R. Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R. Reizer J., Saier M.H., Hancock R.E.W., Lory S., Olson M.V.;

The Complete genome sequence of Pseudomonas aeruginosa PAO1, an opportunistic pathogen.";

R EMBL; ABEO04898; AAG08236.1;

Nature 406:959-964(2000).

RR EMBL; ABEO04898; AAG08236.1;

New Hypothetical protein; Complete proteome.

SEQUENCE 421 AA; 46442 MW; 68C5C17099953C3E CRC64;
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Q9VFD4;
01-MAY-2000
01-MAY-2000
01-JUN-2000
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01-MAR-2001
01-OCT-2001
Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D., Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F., George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N., Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X., Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.
                                                                                                                                                                                                                                                                                                                                                                                                              Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Musc
                                                                                                                                                                                           MEDLINE=20196006; PubMed=10731132;
                                                                                                                                                                                                                                          STRAIN-BERKELEY;
                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                              Ephydroidea; Drosophilidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CG18442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CG18442 protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pseudomonas aeruginosa
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53; Conservative
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(TYEMBLrel. 16, Last sequence update)
(TYEMBLrel. 18, Last annotation update)
1 protein PA4851.
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Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Created)
Last sequence update)
Last annotation update)
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Pred. No. 2.7;
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DR EMBL, AE003707; AAF55126.1; -.

DR EMBL, AE003707; AAF55126.1; -.
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Matches
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                                                                                                                                              Q90WT9;
01-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-MAR-2002 (TrEMBLrel. 20,
                                                                                                              TNF-related apoptosis inducing ligand Gallus gallus (Chicken).
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                                                                                                                                                                                                                                 Q90WT9
                                                                                              Eukaryota; Metazoa;
SEQUENCE FROM N.A.
                                    NCBI_TaxID=9031;
                                                                        Archosauria;
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49; Conser
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ilarity 21.7%;
Conservative 2
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                                                                        Neognathae;
                                                                                            Chordata;
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                                                                                                                                                     Last sequence update)
Last annotation updat
                                                                                                                                                                                           Created)
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Pred. No. 7.7;
Pred. No. 7.7;
                                                                        Craniata; Vertebrata; Euteleostomi; ; Galliformes; Phasianidae; Phasiani
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089341;
01-NOV-1998 (TREMBLEGI. 0
01-NOV-1998 (TREMBLEGI. 0
01-DEC-2001 (TREMBLEGI. 1
                                                                                                                                                                                                                                                                                                         MEDINE-9008172;
MEDINE-9008172;
Yu M., Hansson E., Langedijk J.P., Eaton B.T., Wang L.F.;
The attachment protein of Hendra virus has high structural similarity
but limited primary sequence homology compared with viruses in the
                                                                                                                                                                                                   Wang L.F., Yu M., Hansson E., Pritchard L.I., Shiell B., Michalski W.P., Eaton B.T.;
"The exceptionally large genome of Hendra virus: support for creation of a new genus within the family Paramyxoviridae.";
J. Virol. 74:9972-9979(2000).
                                                                                                                                     Wang L.-F., Yu M., Pritchard L.I., Hansson E. Submitted (JUN-2000) to the EMBL/GenBank/DDBJ EMBL, AF017149; AAC83191.1; -.
                                                                                     SEQUENCE
                                                                                                              InterPro; IPR000982; Matrix.
Pfam; PF00661; Matrix; 1.
                                                                                                                                                                                                                                                                     MEDLINE-20481636; PubMed-11024125;
                                                                                                                                                                                                                                                                                                                                                                                                                              Viruses; ssRNA negative-strand viruses; Mononegavirales; Paramyxoviridae; Paramyxovirinae; Morbillivirus
                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=63330;
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PROSITE; PS50049; TNE_2; 1.
SEQUENCE 287 AA; 32092 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR003636; TNF_abc. InterPro; IPR000478; TNF_family.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  135
                                                                                                                                                                             EQUENCE FROM N.A.
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RPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLRYDRQIGEFTVIRAGLY 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CWAPEAEYGLHALYQGGLFELKAGDELFVSVSSLAIDYSDAAASYFGAFRL 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ASSPGPQ--LRLCQVSGLLPLRPGSSLRIRTLPWAHLKAAPFLTYFGLFQV 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GKYYYYSQIYFRYSRDGAGARVSVPQLVQCINWKTSYSQPILLLKGV------GTK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SAHLIFRPQNPAQDGSSRRFGNLSQSCRHAITRWEDSTIHSHLQNITY--RDGRLRVNQA 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GLYYLYCQVHFD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              40;
                                                                                    PD000741; Matrix; 1.
E 352 AA; 39793 MW;
                                              Similarity
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                                            28.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24;
                              Score 89; DB 1
Pred. No. 3;
20; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence update)
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                                                                                 79E238DE496828D5 CRC64;
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                                                       DB 12;
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Query Match

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                                                               RA Ballew R. M., Basu A., AIH H. J., ANDERS PIRANKOCH C., Baldwin D.,
RA Beeson K.Y., Benos P. V., Berman B.P., Bhandari D., Botshakov S.,
RA Beeson K.Y., Benos P. V., Berman B.P., Bhandari D., Botshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottler P.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Dodson K., Devangelista C.C., Ferriaz C., Ferriera S., Fleischmann W.,
RA Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.
RA Harris N.L., Harvey D., Helman T.J., Hernandez J.R., Houck J.,
RA Hostin D., Houston K.A., Howland T.J., Hernandez J.R., Houck J.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
Lasko P., Lai Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
Lasko P., Lai Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., McShrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., McShrefi A.,
RA Merkulov G., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
RA Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
RA Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
RA Shue B.C., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
RA Wang S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
RA Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu X., Smith H.O.,
RA Zheng X.- Ferrico G. Drosophila melanogaster.",
Smith T.,
RA Zheng Y., Shang R.S., Shang R.S., Sh
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01-MAY-2000
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Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Etarygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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                                                 FBgn0033970;
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         AA ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=10731132;
25025 MW;
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Last annotation updat
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780B9EF7BBAFF156 CRC64;
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RESULT 9
Q6670
ID 7667
AC Q667
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DE Matr
OS Equi
OC Viru
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OX NCBI
RN (1)
RP SEQU
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RT equi
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RT equi
RT Yiru
DR EMBI
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 RESULT 10
Q16727
ID Q1672
AC Q1672
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Best Local Similarity
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Q66760;
Q1-NOV-1996
Q1-NOV-1996
                           016727 PRELIMINARY; PRT; 532 AA. 016727; 01-NOV-1996 (TrEMBLrel. 01, Created) 01-NOV-1996 (TrEMBLrel. 01, Last sequence update) 01-DEC-2001 (TrEMBLrel. 19, Last annotation update Placental-like alkaline phosphatase precursor (EC
            Homo sapiens (Human)
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000982; Matrix.
Pfam; PF00661; Matrix; 1.
ProDom; PD000741; Matrix; 1.
SEQUENCE 353 AA; 40142 MW;
                                                                                                                                                                                                                                                                                                                                                                                  "Comparison of the deduced matrix and fusion protein sequences equine morbillivirus with cognate genes of the Paramyxoviridae. Virus Res. 43:17-31(196).
EMBL; U49404; AAB39504.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Viruses; ssRNA negative-strand viruses; Mononegavirales;
Paramyxoviridae; Paramyxovirinae; Morbillivirus.
NCBI_TaxID=45337;
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Equine morbillivirus.
 Mammalia; Eutheria; Primates; Catarrhini;
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MEDLINE-96419932; PubMed-8822631;
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                                                                                                                                                                        SGLLPLRPGSSLRIRTLPW 207
                                                                                                                                                                                                                     YL--YCQVHFDEGKAVY------LKLDLLVNGVLALRCLEEFSATAASSPGPQLRLCQV 188
                                                                                                                                                                                                                                           RRNNAIAFNLLVYLKIDADLAKAGIQGSFDK-DGTKVAS----FMLHLGNF-VRRAGKY
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            Chordata;
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            Craniata; Vertebrata; Euteleostomi;
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 Hominidae;
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                                 3.1.3.1).
 Homo
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Matches 44
                                                       Query Match
Best Local Similarity
                                             Matches
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SEQUENCE
 1400
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Eukaryota; Metazoa; C
Mammalia; Eutheria; F
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SIGNAL
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                                                                                                                                                                                                                                                                                         KIAA0929
                                                                                                                                                                                                                                          NCBI_TaxID=9606;
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                     33
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QPRLPAGPANRPPEPHTQVQRAQAETGPTSFPSPVSVSMKPDL-PVSLPTQTAPKQPLFV 1458
                                                                                         1663 AA;
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                                           Conservative
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532 F
57399 MW;
                                                     7.6%;
23.1%;
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28.6%;
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Q9UQ01 PRELIMINARY; PKI; 1907 C...
Q9UQ01;
Q1-MAY-2000 (TrEMBLrel. 13, Created)
Q1-MAY-2000 (TrEMBLrel. 13, Last sequence update)
Q1-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                                                                                                                                       Nagase T., Ishikawa K., Suyama M., Kikuno R., Hirosawa M., Miyajima N., Tanaka A., Kotani H., Nomura N., Ohara O.; "prediction of the coding sequences of unidentified human genes. XIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins in vitro."; DNA Res. 6:63-70(1999).

EMBL; AB023146; BAA76773.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS; PR00113; ALKPHPHTASE.
ProDom; PD001868; Alk_phosphtse;
SMART; SM00098; alkPPC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cancer Res. 50:1085-1091(1990).
EMBL; X53279; CAA37374.1; -.
HSSP; P00634; IAJC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gum J.R., Hicks J.W., Sack T.L., Kim Y.S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE; PS00123; ALKALINE_PHOSPHATASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF00245; alk_phosphatase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Molecular Cloning of Complentary DNAs in Human Colon Cancer Cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=90124311; PubMed=2297757;
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                                                                                                                                                                                                                                                               TISSUE=BRAIN;
MEDLINE=99246063; PubMed=10231032;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           76 KARPRRAIAAHYEV---HPRPG---QDGAQAGVDGTVSGWEETKINSSSPLRYDRQIGEF 129
AGTTDAAHPGPSV----VPALLPLLAGTLLLLGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TVIRAGLYYLYCQVHFDEGKAVYLKLDLLVNGV------LALRCLEEFSA-----
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                                                                                                                                                                                                                                                                                                                                                    Chordata; (
Primates; (
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                                                                                                              173871 MW;
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Pred. No.
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Pred. No.
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27;
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                                                                            Length 1663;
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RESULT Q96758
ID Q9
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Best Local Similarity 23.1
Matches 42; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rhodes S., Huckle E.;
submitted (JUL-1999) to the EMBL/GenBank/DDBJ
EMBL; ALO96858; CAB51072.1; -.
InterPro: IPR000504; RNA_rec_mot.
Pfam; PF00076; rrm; 2.
SWART; SM00360; RBM; 2.
PROSITE; PS50102; RRM; 2.
                                             Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                               01-DEC 2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence up
01-JUN-2002 (TrEMBLrel. 21, Last annotation
Nuclear receptor transcription cofactor.
                                                                                                                                                                                                                                                                                                                                                                                                                  3147
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01-NOV-1999 (TrEMBLrel. 12, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical 357.0 kDa protein.
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutherla; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1506
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                                                                                                                               SHARP
                                                                                                                                                                                                                                                           Q96T58;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9Y556;
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                          NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hypothetical protein. SEQUENCE 3261 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  187
                                                                                                                                                                                                                                                                                   PRELIMINARY;
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23.1%;
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; Pred. No. 65;
20; Mismatches
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                                               Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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Best Local
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Shi Y., Downs M., Xie W., Kao H.-Y.
Hon M., Evans R.M.;
"SHARP, an inducible cofactor that
repression and activation.";
Genes Dev. 0:0-0(2001).
EMBL; AF356524; AAK52750.1; -.
InterPro; IPR000504; RNA_rec_mot.
Pfam; PF00076; rrm; 4.
                                                                                                                                                                          Submitted (SEP-2000) to the EMBL/GenBank/DDBJ EMBL; AP002863; BAB16908.1; InterPro; IPR004932; Rer1. Pfam; PF03248; Rer1; 1. SEQUENCE 522 AA; 58171 MW; AE43E294DFE88E7
                                                                                                                                                                                                                                                                                                              Oryza sativa (Rice).

Bukaryota; Viidiplantae; Streptophyta;
Spermatophyta; Magnoliophyta; Liliopsida
Ehrhartoideae; Oryzeae; Oryza.

NCBI_TaxID-4530;
                                                                                                                                                                                                                                                                                                                                                                                                    O9FTN7 PRELIMINARY; PRT; 522 AA.
O9FTN7: 01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
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                                                                                                                                                                                                                                        "Oryza sativa nipponbare(GA3) genomic clone:P0005A05.";
                                                                                                                                                                                                                                                               STRAIN=CV. NIPPONBARE Sasaki T., Matsumoto
                                                                                                                                                                                                                                                                                                                                                                              Putative RerlA protein (AtRERIA). P0005A05.12.
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                                                                                                  70 SAPKGRKARPRRAIAAHYEVHP---RPG--QDGA----QAGVDGTVSGWE-----ETK
                                                                                                                                        Local
 CLEEFSATAASSPGPQLRLCQVSGLLPLRPGSSLR--IRTLP-----WAHLKA---APFL
                                                                          SSSKGREGFAAREVVA----SPSGFRPGFSMDGAADSGTAGAAAAAAKWRTDASRAFQYY
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                                                INSSSPLRYDROIGEFTVIRAGLYYLYCOVHFDE-----GKAVYLKLDLLVNGVLALR
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                        LDRSTPHATGRWIGTLAV--AAIYAL--RVYLVQGFYIVTYGLGIYL-LNLLI-GFLSPM
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42; Conserv
                                                                                                                           57;
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                                                                                                                                     Similarity
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23.1%;
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Pred. No.
                                                                                                                                     Score 87.5;
Pred. No. 6
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75;
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Search completed: May 8, 2003, 02:21:23 Job time: 27.8703 secs
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                                                                                                                                                                                                                                                                                          Query Match 7.5%; Score 87.5; DB 16; Length 670; Best Local Similarity 24.0%; Pred. No. 9.5; Matches 43; Conservative 24; Mismatches 75; Indels 37
                                                                                                                                                                                                                                                                                                                                                                                            Eisen J., Heidelberg J.F., Alley M.R.K., Ohta N., Maddock J.R., Potocka I., Nelson W.C., Newton A., Stephens C., Phacke N.D., Ely B., Deboy R.T., Dodson R.J., Durkin A.S., Gwinn M.L., Haft D.H., Kolonay J.F., Smit J., Craven M.B., Khouri H., Shetty J., Berry K., Utterback T., Tran K., Wolf A., Vamathevan J., Ermolæva M., White O., Salzberg S.L., Venter J.C., Shapiro L., Fraser C.M., "Complete genome sequence of Caulobacter crescentus."; Proc. Natl. Acad. Sci. U.S.A. 98:4136-4141(2001).

EMBL; AR005755; AAK22781.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            O9AA15 PRELIMINARY; PRT; 670 AA.
O9AA15;
01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-MAR-2002 (TrEMBLrel. 20, Last annotation update)
Alpha-glucosidase, putative.
CC0796.
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STRAIN-ATCC 19089 / CB15;
MEDLINE-21173698; PubMed-11259647;
Nierman W.C., Feldblyum T.V., Laub
                                                                                                                                                                                                                                                                                                                                                                 Complete proteome. SEQUENCE 670 AA; 72724 MW; CBEC8FF95B9300C2 CRC64;
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Bacteria; Proteobacteria; alpha subdivision; Caulobacter group;
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T13B_HUMAN
APP2_HUMAN
TNFB_MACEU
                                                                   TN13_MOUSE
TNFC_MACEU
PPB2_HUMAN
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PPB3_HUMAN
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B3A2_RAT
TNFB_RABIT
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ID TM12_MOUSE STANDARD; PRT; 225 AA.

AC 054907; 09CTP2;
DT 15-JUN-2002 (Rel. 41, Created).
DT 15-JUN-2002 (Rel. 41, Last sequence update)
DT 15-JUN-2002 (Rel. 41, Last annotation update)
DE Tumor necrosis factor ligand superfamily member
DE inducer of apoptosis) (TWEAK) (Fragment).

GN TNFSF12.
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
MCBI_TaxID=10090;
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Result No.

Database

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ALIGNMENTS

Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus

12

(TNF-related weak

MEDLINE=98070415; PubMed=9405449;	
	Hession C., Garcia I., Browning J.L.; "TWEAK, a new secreted ligand in the tumor necrosis fact weakly induces apoptosis."; J. Biol. Chem. 272:32401-32410(1997). [2] SEQUENCE OF 83-225 FROM N.A. STRAIN-C57BL/6J; TISSUE-Retina; MEDLINE-21085660; PubMed=11217851; Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Ya Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casav Fleischmann W., Gaasterland T., Gissi C., King B., Kochi Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Qu Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner J., Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., B Blake J., Boffelli D., Bojunga N., Carninci P., de Bonal Brownstein M.J., Bult C., Fletcher C., Fujita M., Garibo Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M. Lyons P., Marchionni L., Mashima J., Mazzarelli J., Momb Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Suzuki H., Toyo-oka K., Hanga K.H., Weitz C., Whittaker C Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Ko Hayashizaki Y.; "Functional annotation of a full-length mouse cDNA colle Nature 409:685-690(2001). "Functional annotation of a full-length mouse cDNA colle Nature 409:685-690(2001). "SUBCELLULAR LOCATION: Type II membrane protein and s: similarity). "I SUBCELLULAR LOCATION: Type II membrane protein and s: similarity). "I SUBCELLULAR LOCATION: Type II membrane protein and s: similarity).
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Cnicheporticne Y., Bourdon P.R., Xu H., Hsu YM., Scott H. Hession C., Garcia I., Browning J.L., "TWEAK, a new secreted ligand in the tumor necrosis factor weakly induces apoptosis."; J. Biol. Chem. 272:32401-32410(1997). [2] SEQUENCE OF 83-225 FROM N.A. STRAIN-C57BL/6J; TISSUE-Retina; MEDLINE-2108566J; PubMed=11217851; Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Is Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Ful Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamat Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Sa Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavani Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quach Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Bars Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldl Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., I Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaes Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N., Sasaki H., Toyo-oka K., Wang K.H., Weltz C., Whittaker C., Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohts Hayashizaki Y.; "Functional annotation of a full-length mouse cDNA collecti Nature 409:685-690(2001). 1-1- FUNCTION: Binds to FN14 and possibly also to TNRFSF12/F inducer of apoptosis in some cell types: Promotes angic the proliferation of endothelial cells. Mediates NF-Kag activation (By Similarity). 1-1- SUBCELULAR LOCATION: Type II membrane protein and seci	-:- TISSUE SPECIFICITY: WIDELY EXPRESSED.-:- PTM: The soluble form is produced from the membrane form
Chicheporticne Y., Bourdon P.R., Xu H., Hsu YM., Scott H. Hession C., Garcia I., Browning J.L., "TWEAK, a new secreted ligand in the tumor necrosis factor weakly induces apoptosis."; J. Biol. Chem. 272:32401-32410(1997). [2] SEQUENCE OF 83-225 FROM N.A. STRAIN-C57BL/6J; TISSUE-Retina; MEDLINE-21085660; PubMed-e11217851; Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Is Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukunishi Y., Konno H., Adachi J., Fukunishi Y., Konno H., Kasukawa T., Sakai K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamat Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Sakai K., Matsuda H.A., Ashburner M., Batalov S., Casavant Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quack Schriml L.M., Staubli F., Suzuki R., Tonita M., Wagner L., Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Bars Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lyons P., Kaniga B., Ringwald M., Rodriguez I., Sakamoto N. Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stunki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtt Hayashizaki Y., inducer of apoptosis in some cell types. Promotes angic the proliferation of endothelial cells. Mediates NF-Kag activation (By similarity). -i- SUBCELLULAR LOCATION: Type II membrane protein and secrimitarity).	FIM: The soluble form is produced from the membrane form
Chicheporticne Y., Bourdon P.R., Xu H., Hsu YM., Scott H. Hessian C., Garcia I., Browning J.L., "TWEAK, a new secreted ligand in the tumor necrosis factor weakly induces apoptosis."; J. Biol. Chem. 272:32401-32410(1997). [2] SEQUENCE OF 83-225 FROM N.A. STRAINE-57BL/6J; TISSUE-Retina; MEDLINE-21085660; PubMed=11217851; Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Is Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Ful Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamat Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Sis Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa Ruehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quach Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Sakai K., Okido T., Furuno M., Aono H., Baddarelli R., Bars Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., I Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombael Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N., Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Stc Suzuki H., Sato K., Schoenbach C., Seya T.,	

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TNI2HUMA
ID. TNI12
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DT 15-J
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DT 15-J
DT 15-J
DT 15-J
DT TMMO
DE Indu
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Best Local
                                                                                                               TM12_HUMAN STANDARD; PRT; 249 AA. 043508; OBWUZ7; 15-JUN-2002 (Rel. 41, Created) 15-JUN-2002 (Rel. 41, Last sequence update) 15-JUN-2002 (Rel. 41, Last snnotation update) 15-JUN-2002 (Rel. 41, Last annotation update) Tumor necrosis factor ligand superfamily member inducer of apoptosis) (TWEAK) (APO3 ligand). TMFSF12 OR APO3L OR DR3LG.
MEDLINE-98070415; PubMed-9405449; Chicheportiche Y., Bourdon P.R.
                                                                           Eukaryota; Metazoa; Chordata; Craniata; V
Mammalia; Eutheria; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DISULFID
CARBOHYD
SEQUENCE
                                                                                                        Homo sapiens (Human)
                                                                                                                                                                                                                        HUMAN
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SITE
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EMBL; AK020909; BF
MGD; MGI:1196259;
                             SEQUENCE FROM N.A., AND TISSUE-Tonsil, and Fetal
                                                                  NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                    PQLRLCQVSGLLPLRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH
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69
167
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225
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59; Tnfsf12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       processing (By similarity).
BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             225
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Transmembrane; Glycoprotein; Signal-anchor.
                                        N-TERMINUS OF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-ĻINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLEAVAGE (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TUMOR NECROSIS FACTOR LIGAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 1162; DB 1;
Pred. No. 4.3e-97;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (POTENTIAL)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LINKED (GLCNAC. . .) (POTENTIAL) 90C412CC0480659B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
   ř
                                       SOLUBLE
                                                                                       Vertebrata;
  Hsu
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  Ү.-М.,
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 Scott
                                                                                                                                         (TNF-related weak
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                                                                                        Euteleostomi;
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DOMAIN
                                                                            TRANSMEM
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EMBL; AF055872; AAC39724.1;
EMBL; BC019047; AAH19047.1;
Genew; HGNC:11927; TNFSF12.
                                                                                                                                                                                                                                                                                                                                                                                  the European Bioinformatics Institute. There use by non-profit institutions as long as modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          J. Biol. Chem. 274:8455-8459(1999).

-I- FUNCTION: Binds to FN14 and possibly also to TNRFSF12/APO3. Weak inducer of apoptosis in some cell types. Mediates NF-KappaB activation. May promote anglogenesis and the proliferation of endothelial cells.

-I- SUBUNIT: HOMOTRIMER (POTENTIAL).
                                                                                                                                                                                                               Pfam; PF00229; TNF; 1.
SMART; SM00207; TNF; 1
                                                                                                                                                                                                 PROSITE;
                                                                                                                                                                                                                                                                                                                                                         or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                      entities requires a license agreement (See http://www.isb-sib
                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Lynch C.N., Wang Y.C., Lund J.K., Chen Y.-W., Leal J.A., Wiley S.R., "TWEAK induces angiogenesis and proliferation of endothelial cells.", J. Biol. Chem. 274:8455-8459(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Fetal kidney;
MEDLINE=98228355; PubMed=9560343;
Marsters S.A., Sheridan J.P., Pitti R.M.,
                                                                                                                                                                                    PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PubMed=10085077;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Strausberg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Apo3."
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Identification of a ligand for the death-domain-containing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ashkenazi A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N
                                                                                                                                                                                                                                                nterPro; IPR000478; TNF_family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUBCELLULAR LOCATION: Type II membrane protein and secreted. TISSUE SPECIFICITY: Highly expressed in adult heart, pancreas, skeletal muscle, brain, colon, small intestine, lung, ovary, prostate, spleen, lymph node, appendix and peripheral blood lymphocytes. Low expression in kidney, testis, liver, placenta, thymus and bone marrow. Also detected in fetal kidney, liver,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lung and brain.

PTM: The soluble form derives from the membrane form
by proteolytic processing.

SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.

CAUTION: Ref.3 sequence differs from that shown due to a
frameshift in position 125.
                                                                                                                                                                                                                                                              602695;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biol.
                                                                                                           PS00251; TNE_1; FALSE_NEG.
PS00251; TNE_2; 1.
PS50049; TNE_2; 1.
PS50049; TNE_2; 1.
TUMOR NECROSIS FACTOR LIGAND SUPERE
1 249 MEMBER 12, MEMBRANE FORM.
TUMOR NECROSIS FACTOR LIGAND SUPERE
94 249 TUMOR NECROSIS FACTOR LIGAND SUPERE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (DEC-2001) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8:525-528(1998)
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93
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22
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                                                                         21
42
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                                                                     MEMBER 12, SECRETED FORM.
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II ME
                                          EXTRACELLULAR
                                                          (POTENTIAL)
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There are no restrictions on
ong as its content is in no
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                                                                         MEMBRANE PROTEIN)
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                                                                                                                                                                                                                                                                                                                                                                                                                                  a collaboration
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SEQUENCE CARBOHYD

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E660843361C28EBA CRC64; (GLCNAC.

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Best Local
                                                InterPro; IPRO03263; TNF_5.
InterPro; IPRO03636; TNF_abc.
InterPro; IPRO03636; TNF_family.
Pfam; PF00229; TNF; 1.
ProDom; PD008601; TNF_abc; 1.
ProDom; PD008601; TNF_5; 1.
SNART; SM00207; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TNF5_CHICK
Q918D8;
15-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                  STRAIN-White leghorn; TISSUE-Spleen;
Tregaskes C.A., Young J.R., Burnside J.;
Submitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
-I-FUNCTION: Cytokine that binds to TNFRSF5. Mediates B-cell proliferation in the absence of co-stimulus as well as IgE production in the presence of IL-4. Involved in immunoglobulin
                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBI the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and formatical content is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor ligand superfamily member 5
1) (CD154 protein).
TNFSF5 OR CD40LG OR CD40L.
Gallus gallus (Chicken).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CHICK
                                                                                                                                                                                                                                                                              Cytokine; Transmembrane; Glycoprotein; Signal-anchor. CHAIN 1 272 TUMOR NECROSIS FACTOR LI
                      PROSITE; PS00251; TNF_1; 1. PROSITE; PS50049; TNF_2; 1.
                                                                                                                                         EMBL; AJ243435; CAB95748.1; HSSP; P29965; 1ALY.
                                                                                                                                                                              entities requires a license agreement or send an email to license@isb-sib ch
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  206
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         199;
                                                                                                                                                                              an email to license@isb-sib.ch).
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88.8%;
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Pred. No. 2.6e-84;
TUMOR NECROSIS FACTOR LIGAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
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SUPERFAMILY
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOUSE STANUARL,
TN11_MOUSE STANUARL,
TN11_MOUSE STANUARL,
O35235; O35306; Q9RIYO; Q9JJK8; Q9JJR2,
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor ligand superfamily member 11 (Receptor activator of nuclear factor kappa B ligand) (RANKL) (TNF-related activation-induced cytokine) (TRANCE) (Osteoprotegerin ligand) (OPGL) (Osteoclast
''ferentiation factor) (ODF) (Osteoclastogenesis-inhibitory factor)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
Anderson D.M.,
Tometsko M.E.,
Galibert L.;
            Anderson D.M., Maraskovsky E., Billingsley W.L., Dougall W.C.,

Anderson D.M., Maraskovsky E., Dillingsley W.L., Cosman D.,
                                                                                                                                              Choi Y.;
"TRANCE is a novel ligand of the tumor that activates c-Jun N-terminal kinase that activates 272:25190-25194(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
CARBOHYD
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SITE
                                                                                                                                                                                                                                                       MEDLINE-97460112; PubMed-9312132;
Wong B.R., Rho J., Arron J., Robinson E
Kalachikov S., Cayani E., Bartlett F.S.
                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CARBOHYD
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                                                                                                                   SEQUENCE FROM N.A. (ISOFORM
                                                                                                                                                                                                                                                                                                                                TISSUE-Hybridoma;
                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. (ISOFORM 1).
                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10090;
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44
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N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
S409F24A8E53CCD7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 109.5;
Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; I
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY MEMBER 5, SOLUBLE FORM (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EXTRACELLULAR (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEMBER 5, MEMBRANE FORM
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                                                                                                                                                                                       necrosis factor receptor family
in T cells.";
                                                                                                                                                                                                                                                            III,
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).012;
                                                                                                                                                                                                                                                         Orlinick J., Chao
II, Frankel W.N., 1
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PubMed-1001
Lum L., Mong B.R., Josien n., Schloent Lum L., Mong B.R., Josien n., Schloendorff J., Tempst P., Choi Y., Blober Converting enzyme-like protease in shedding of TRANCE, TWF-alpha Involved in osteoclastogenesis and dendritic celi
                                                                                                                                                                                                                                                                                              "Crystal structure of the TRANCE/RANKL cyto of receptor-ligand specificity".
                                                                                                                                                                           Ito S., Wakabayashi K., UI "Crystal structure of the 2.2-A resolution.";
                                                                                                                                                                                                                                                    X-RAY CRYSTALLOGRAPHY
                                                                                                                                                                                                                                                                                                                                                                  PubMed=11581298;
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"Determination of three isoforms of the receptor activator
"determination of three isoforms of the receptor activator
"Determination of three isoforms of the receptor activator
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Burgess T., Elliott R., Colombero A., Elliott G.,
Sullivan J., Hawkins N., Davy E., Capparelli C.,
Kaufman S., Sarosi I., Shalhoub V., Senaldi G., (
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FUNCTION: Cytokine that binds to TNFRSFILE/...
FUNCTION: Cytokine that binds to TNFRSFILE/...
TNFRSFILA/RANK. Osteoclast differentiation and activation lacus...
Augments the ability of dendritic cells to stimulate naive T-cell proliferation. May be an important regulator of interactions between T cells and dendritic cells and may play a role in the collaboration of the T cell-dependent immune response. May also play
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                                                                                                                                                                                                                                                                                      nd specificity.";
108:971-979(2001).
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ra K., Mizuno A., Yasuda
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ular domain of mouse RANK ligand
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G., Scully
C., Eli A.,
G., Guo J., D
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Murakami
N., Suda
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an important role in enhanced bone-resorption i hypercalcemia of mallgnancy.

SUBUNIT: Homotrimer.

SUBCELLULAR LOCATION: Type II membrane protein (1soforms 1 and 2); Cytoplasmic (1soform 3).

ALTERNATIVE PRODUCTS: 3 isoforms; 1 (shown here
                                                                                                                                                                   in
                                                                                                                                                                      humoral
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produced by alternative splicing.
TISSUE SPECIFICITY: HIGHLY EXPRESSED IN THY.
NOT IN NONLYMPHOID TISSUES AND IS ABUNDANTL.
BUT NOT IN B CELLS. A HIGH LEVEL EXPRESSION
TRABECULAR BONE AND LUNG.
PTM: N-glycosvlator EXPRESSED IN THYMUS AND LYMPH NODES AND IS ABUNDANTLY EXPRESSED IN T CEILEVEL EXPRESSION IS ALSO SEEN IN THE here), ພ and ω •• are BUI

THE

-I- PTM: N-91/GOSYLATED.
-I- PTM: N-91/GOSYLATED.
-I- PTM: The soluble form of isoform 1 derives from the membrane form by proteolytic processing: The cleavage may be catalyzed by ADAMI7. A further shorter soluble form was observed.
-I- DISEASE: DEFICIENCY IN TNESF11 RESULTS IN FAILURE TO FORM LOBULO-ALVECTAR MAMMARY STRUCTURES DURING PREGNANCY, RESULTING IN DEATH OF NEWBORNS. TRANCE—DEFICIENT MICE SHOW SEVERE OSTEOPETROSIS, WITH NO OSTEOCLASTS, MARROW SPACES, OR TOOTH ERUPTION, AND EXHIBIT PROFOUND GROWTH RETARDATION AT SEVERAL SKELETAL SITES, INCLUDING THE LIMBS, SKULL, AND VERTEBRAE AND HAVE MARKED CHONDRODYSPLASIA, WITH THICK, IRREGULAR GROWTH PLATES AND A RELATIVE INCREASE IN HYPERTROPHIC CHONDROCYTES.
-I- SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY. HTIW

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CONFLICT
CONFLICT
SEQUENCE
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VARSPLIC
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EMBL;
EMBL;
EMBL;
EMBL;
EMBL;
                                                        CARBOHYD
                                                                                         TRANSMEM
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                                                                                                                                                                        InterPro; IPR003636; TNF_abc.
InterPro; IPR00478; TNF_family.
Pfam; PF00229; TNF; 1.
SMART; SM00207; TNF; 1.
                                                                                                                                                                                                                                                                                          EMBL;
                                                                                                                                                          PROSITE;
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                                                                                                                                         ignal-anchor;
                                                                                                                                                                                                    ### AFO13170; AAC71061.1; AFO130148; AAB86812.1; AFO130148; AAC80113.1; AFO53713; AAC40113.1; ABO08426; BAA25425.1; ABO02039; BAA36970.1; JAB022036; BAA36970.1; JAB022038; BAA36970.1; JAB022038; BAA36970.1; JAB022038; BAA36970.1; JAB022038; BAA36970.1; L; ABO22038; BAA36970.1; L; ABO32771; BAA97257.1; L; ABO32772; BAA97257.1; L; ABO36798; BAA97259.1; L; ABO36798; BAA97259.1; JUTE; 13-SEP-01.
                                                                                                                                                       PS00251; TNF_1; PS50049; TNF_2;
                                                                                                                             Differentiation; Receptor; Glycoprotein; Transmembrane; chor; 3D-structure; Alternative splicing.

1 316 TUMOR NECROSIS FACTOR LIGAND SUPERFA
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138
197
262
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AA;
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N-LINKED (GLCNAC. . .) (POTENTIAL)
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ISOFORM 2).
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MISSING (IN REF. 5).
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                                                                                    MEMBER 11, MEMBRANE FORM.
TUMOR NECROSIS FACTOR LIGAND
MEMBER 11, SOLUBLE FORM.
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE II MEMBRI
                                                               EXTRACELLULAR (POTENTIAL). CLEAVAGE.
08DF63A2BE00967A CRC64;
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Query Match Best Local Similarity

8.88; 24.38;

Score 102.5; DB 1; Pred. No. 0.06;

Length 316;

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                                                                                                                                                                                                                                                                                                                                                                   TNF5_CANFA STANDARD; PRT; 260 AA. 097626; 097626; 16-OCT-2001 (Rel. 40, Created) 16-OCT-2001 (Rel. 40, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update) Tumor necrosis factor ligand superfamily member 5 (CD40 ligand).
PROSITE; PS00251; TNF_1; 1.
PROSITE; PS50049; TNF_2; 1.
Cytokine; Transmembrane; Glycoprotein; Signal-anchor.
                                                                                                                                                                                  the European Bloinformatics Institute. There are no restrictions on it. use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce, or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                      EXTRACELLULAR SOLUBLE FORM (BY SIMILARITY).
                                               ProDom; PD008600; TNF_5; 1. SMART; SM00207; TNF; 1.
                                                                              InterPro; IPRO
Pfam; PF00229;
                                                                                                                                          EMBL; AF086711; AAD04375.1; -. HSSP; P29965; 1ALY.
                                                                                                                                                                                                                                                                                                           proteolytic processing (By similarity).
-i- SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TNFSF5 OR CD40LG OR CD40L. Canis familiaris (Dog).
                                                                                                                          InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9615;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ANICFRHHETSGSVPTDYLQLMVYVVKTSIKIPSSHNLMKGGSTKNWSGNSEFHFYSINV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AHLTINAASIPSGSH---KVTLSSWYHDRGWAKISNMT-----LSNGKLRVNQDGFYYLY 216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AHYEVHPRPGQDGAQAGVDGTVSGWEE----TKINSSSPLRYDRQIGEFTVIRAGLYYLY 140
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  67;
                                                                              IPR003263; TNF_5.
IPR003636; TNF_abc.
IPR000478; TNF_family.
0229; TNF; 1.
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RESULT 7
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CARBOHYD
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HSSP; P50591;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outset the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for commodified and this statement is not removed. Usage by and for commodified and this statement is not removed. Usage by and for commodified and this statement is not removed.
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SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                similarity)
TISSUE SPEC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PTM: The soluble
                                                                                 GFFKLRAGEEISVQVSNPSLLDPDQDATYFGAFKV
                                                                                                    GLLPLRPGSSLRIRTLPWAHLKAAPFLTYFGLFQV 224
                                                                                                                     NICFRHHETSGSVPADYLQLMYYVVKTSIKIPSSHNLMKGGSTKNWSGNSEFHFYSINVG
                                                                                                                                        QV----HFDEGK--AVYLKLDLLV----NGVLALRCLEEFSATAASSPGPQLRL--CQVS 189
                                                                                                                                                                                                                                          LALLGLGLGQVVCSIALFLYFRAQMDPNR---ISEDSTRCFYRILRLRENTGLQDSTLES
                                                                                                                                                                                                                                                       LALACUGLLLVVVSLGSWATLSAQ-EPSQEELTAEDR------REPPELNPQTEES 54
                                                                                                                                                              HLTINAADIPSGSH----KVSLSSWYHDRGWAKISNMT----
                                                                                                                                                                                HYEVHPRPGQDGAQAGVDGTVSGWEE----TKINSSSPLRYDRQIGEFTVIRAGLYYLYC
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                                                                                                                                                                                                                                                                                    64;
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an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                            Similarity
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   (Rel. 14, Rel. 29,
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                                STANDARD;
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68
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Created)
Last sequence update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Receptor; Glycoprotein; Transmembrane;
                                                                                                                                                                                                                                                                                  36;
                                                                                                                                                                                                                                                                                                                                    N-LINKED
                                                                                                                                                                                                                                                                                           Score 90.5;
Pred. No. 0
                                                                                                                                                                                                                                                                                                                                       EXTRACELLULAR (POTENTIAL).
CLEAVAGE (BY SIMILARITY).
N-LINKED (GLCNAC. . .) (POTENTIAL)
N-LINKED (GLCNAC. . . .) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                       CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                        MEMBER 11, MEMBRANE FORM.
TUMOR NECROSIS FACTOR LIGAND
                                                                                                                                                                                                                                                                                                                                                                                                                                            TUMOR NECROSIS FACTOR LIGAND
                                                                                                                                                                                                                                                                                                                                                                                                                MEMBER 11,
                                PRT;
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4B87A4D706AD098F
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                                                                                                                                                                                                                                                                                  Mismatches
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EMBL;
EMBL;
 HSSP; P00634; lAJC.
Siena-2DPAGE; P10696;
Genew; HGNC:441; ALPP:
MIM; 171810; -.
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ALPPL2 OR ALPPL
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use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by an
entitles requires a license agreement (See http://www.isb-
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Shen L.P., Liu H., Kan Y.W., Kam W.;
"5' nucleotide sequence of a putative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Millan J.L., Manes T.;
"Seminoma-derived Nagao isozyme is encoded by a germ-cell alkaline phosphatase gene.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=89308696; PubMed=2745460; Watanabe S., Watanabe T., Li W.L., Soc "Expression of the germ cell alkaline choriocarcinoma cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lowe M.E., Strauss A.W.; "Expression of a Nagao-type, phosphatidylinositol-glycan anchored alkaline phosphatase in human choriocarcinomas.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nucleic Acids Res. 16:5694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    phosphatase-like gene
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Proc. Natl. Acad.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
MEDLINE-88203632; PubMed-2834730;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
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Alkaline phosphatase, placental-like precursor (EC 3.1.3.1) (Nagao isozyme) (Germ-cell alkaline phosphatase) (PLAP-like) (ALP-1).
                                                                                                                                                                                                                                   send an email to license@isb-sib.ch).
L; X07247; CAA30232.1; A31336; A31336; A31336; A34333; A34333; A34333.; S00974; S00974.
                                                                                                                                                                                                                                                                                                                                                                                                                                      (LIVER/BONE/ KIDNEY).
SIMILARITY: BELONGS TO THE ALKALINE PHOSPHATASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AND IN ELEVATED AMOUNTS IN GERM CELL TUMORS.
MISCELLANEOUS: IN MOST MAMMALS THERE ARE FOUR DIFFERENT ISOZYMES:
PLACENTAL, PLACENTAL-LIKE, INTESTINAL AND TISSUE NON-SPECIFIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBCELLULAR LOCATION: Attached to TISSUE SPECIFICITY: TRACE AMOUNTS
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                                                                                                                                                                                                                                                                                                                                                              SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                          J04948; AAA51700.1;
J03252; AAA98616.1;
                                                                                                                                                                                X55958; CAA39425.1;
                                                                                                        BC014139; AAH14139.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (SEP-2001) to the
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Primates;
                                                                             ALT_SEQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Soong B.-W., Chou J.Y.;
lne phosphatase gene in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the membrane by
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ACT_SITE
                                                                                                                                                                                                                                            TNFC_HUMAN STANDARD; PRT; 244 AA. , Q06643; P78370; Q99761; Q097643; P78370; Q99761; Q1_UN-1994 (Rel. 29, Created) Q1_UN-1994 (Rel. 29, Last sequence update) Q15_UN-2002 (Rel. 41, Last annotation update) Lymphotoxin-beta (LT-beta) (Tumor necrosis factor necrosis factor ligand superfamily member 3). LTB OR TNFSF3 OR TNFC.
                                   Warzocha K
Salles G.;
                                          SEQUENCE FROM N.A. (ISOFORMS 1 AND 2 MEDLINE=97445965; PubMed=9299492; Warzocha K., Renard N., Charlot C.,
                                                                                      Chow E.P., Hession C., O'Brine-Greco "Lymphotoxin beta, a novel member of heteromeric complex with lymphotoxin cell 72:847-856(1993).
                                                                                                                                                                        SEQUENCE FROM N.A. (ISOFORM 1), AND PARTIAL SEQUENCE
                                                                                                                                                                                                           Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                      Browning J.L., Ngam-Ek A.,
                                                                                                                                                                TISSUE=T-cell;
                                                                                                                                                                                                                                                                                                                                             HUMAN
                      "Identification of two lymphotoxin beta isoforms
                                                                                                                                                     MEDLINE=93208881; PubMed=7916655;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROPEP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMART; SM00098; alkPPc;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS; PR00113; ALKPHPHTASE.
ProDom; PD001868; Alk_phosphtse; 1.
            ymphoid
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                                                                                                                                                                                                                                                                                                                                                                                          AGTTDAAHPGPSV----VPALLPLLAGTLLLLGT
                                                                                                                                                                                                                                                                                                                                                                                                                ---TAASSPGPQLRLCQVSGLLPLRPGSSLRIRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TVIRAGLYYLYCQVHFDEGKAVYLKLDLLVNGV------LALRCLEEFSA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KARDRKA----YTVLLYGNGPGYVLKDGARPDVTESESGSPEYRQQSAVPLDGETHAGED
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               44;
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cell lines and Biophys. Res. C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PS00123; ALKALINE_PHOSPHATASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IPR001952; Alk_phosphtse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zinc; Magnesium; Phosphorylation; Transmembrane; family; Glycoprotein; GPI-anchor; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               532
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             57315 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7.68;
non-Hodgkin's lymphomas.";
Commun. 238:273-276(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16;
                                                                                                                                         Lawton P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-LINKED (GLCNAC...) (
N-LINKED (GLCNAC...) (
I -> M (IN REF. 3).
V -> M (IN REF. 2, 4 AND
T -> A (IN REF. 4).
H -> R (IN REF. 4).
L -> M (IN REF. 1 AND 4)
V -> L (IN REF. 2 AND 4)
V -> R (IN REF. 2 AND 4)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 88; DB 1
Pred. No. 2.2;
16; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ALKALINE PHOSPHATASE, FREMOVED IN MATURE FORM.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84AB5B28F13D6D82 CRC64;
                                                                   2).
                                            Bienvenu J., Coiffier
                                                                                                     , Demarinis J., Tizard R., B., Foley S.F., Ware C.F.; the TNF family that forms on the cell surface.";
                                                                                                                                                                                                                                                                                                                                                                                          528
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. 1 AND 4).
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                                             В.,
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DOMAIN
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EMBL;
EMBL;
EMBL;
EMBL;
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                                                                                        PRINTS; PR01234; TNECROSISFCT ProDom; PD002012; TNF_abc; 1. SMART; SM00207; TNF; 1.
                                                                                                                          InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
Pfam; PF00229; TNF; 1.
                                                     PROSITE; PS00251; TNF_1; 1.
PROSITE; PS50049; TNF_2; 1.
Cytokine; Cytotoxin; Transmembrane; Glycoprotein;
                                                                                                                                                                          Genew;
                                             Alternative
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L; U19922; AAC51769.1; -. U79929; AAB37342.1; -. L; L11015; AAA36191.1; -. L; X14768; CAA75069.1; -. L; AF129756; AAD18089.1; -. L; AP000505; BAB63395.1; -. L; AY070219; AAL49954.1; -. L; AY070219; AAL49955.1; -. L; AY070219;

w; HGNC:6711; LTB. 600978; -.

splicing; Polymorphism.
1 18 CYTODLASMIC (POTENTIAL).
19 48 SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
19 (POTENTIAL).

Signal-anchor;

49

A46066; A46066. P01374;

1TNR.

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A Rieder M.J., Armel T.Z., Carrington D.P., Chung M.-W., Lee K.L.,
A Poel C.L., Toth E.J., Yi Q., Nickerson D.A.;
A Poel C.L., Toth E.J., Yi Q., Nickerson D.A.;
C Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
C -!- FUNCTION: Cytokine that binds to LTBR/TNRTSF3. May play a specific to the inimune response regulation. Provides the membrane anchor role in immune response regulation. Provides the membrane anchor for the attachment of the heterotrimeric complex to the cell surface. Isoform 2 is probably non-functional.
C -!- SUBUNIT: Heterotrimer of either two LTB and one LTB subunits or (less prevalent) one LTB and two LTB and one LTB subunits or SUBCELLULAR LOCATION: Type II membrane protein (Potential).
C -!- SUBCELLULAR LOCATION: Type II membrane protein (Potential).
C -!- SUBCELLULAR LOCATION: Type II membrane protein (Potential).
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C -!- SUBCELLULAR LOCATION: Type II membrane protein (Potential).
                                                                                                                                                                              use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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ROWEN L., Madan A., Qin S., Shaffer
Abbasi N., Dickhoff R., Loretz C., N
Lasky S., Hood L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRO-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       subunit are amongst the predicted products
TNF locus in the human MHC.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             [3]
SEQUENCE FROM N.A. (ISOFORM 1).
Neville M.J., Milner C.M., Campbell R.D.;
"A new member of the immunoglobulin superfamily and a V-ATPase
                                                                                                                                                                                                                                                                                                                       the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted
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                                                                                                                                                                                                                                                                                  SWISS-PROT entry is copyright. It is produced through a collabeen the Swiss Institute of Bioinformatics and the EMBL outst European Bioinformatics Institute. There are no restrictions by non-profit institutions as long as its content is in
                                                                                                               L11016;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tamiya G., Oka A., Inoko H.; iens 2,229,817bp genomic DNA of 6p21.3 HLA class (SEP-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (OCT-1999) to the
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; AAA99888.1; -.; AAC51769.1; -.; AAB37342.1; -.; AAA36191.1; -.
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  between
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Platyrrhini; Cebidae;
            This
                                                                                                                                                                                                                                                L) (CD154 protein).
TNESF5 OR CD40LG OR CD40L.
                                                                                                                                                                                                                                                          J9BDM3;
15-JUN-2002 (Rel. 41, Createg)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
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                                                                                                                                                                                                                                                                                                                   INF5_AOTTR
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                            proteolytic processing (By similarity).
SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
  SWISS-PROT entry is copyright.
sen the Swiss Institute of Bio
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SLLLAVAGATSLYTLLLAVPITYLAVLALVPQDQGGLYTETADPGAQAQQGLGFQKLPEE
                                                                                                                                                                                                                                                                                                                                                                                                                                       GWETTKEQAFLTSGTQFSDAEG-LALPQDGLYYLYCLVGYRGRAPPGGGDPQGRSVTLRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EPET - - - - DLSPGLP - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SLGLALA----CLGLLLVVVSLGSWATLSAQEPSQEELTAEDR------REPPEL 47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NPQTEESQDVVPFLEQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVS 107
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Pred. No.
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G -> E.
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DPGAQAQQGL -> GLS
AAB37342)
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GLVTETADPGAQAQQGLGFQKLPEE -> GLGFRSCQRRSQ
KQISAPGSQLPTS (IN ISOFORM 2).
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                                                                                                                                                                                                                                                                                                                 PRT;
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ght. It is produced through a Bioinformatics and the EMBI
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                                                                                                                                                                                                                                                                                                                 261
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                                                                                             immunoglobulin
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Aotinae; Aotus
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EMBL
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Best Local
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TNF5_CALJA
TISSUE-Lymphocytes;
MEDLINE-21383618; PubMed-11491535;
Villinger F., Bostik P., Mayne A.E., King C.
Weiss W.R., Ansari A.A.;
"Cloning, sequencing, and homology analysis
"Cloning, sequencing, and homology analysis
Tamunogenetics 53:315-328(2001).
Immunogenetics 53:315-328(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
SITE
DISULFID
CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                          15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor ligand superfamily memb
                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                 L) (CD154 protein).
TNFSF5 OR CD40LG OR CD40L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR003636; TNF_abc.
InterPro; IPR003678; TNF_family.
Pfam; PF00229; TNF; 1.
ProDom; PD002012; TNF_abc; 1.
ProDom; PD008600; TNF_5; 1.
                                                                                                                                                                                                                                                   Callithrix.
                                                                                                                                                                                                                                                                                                             Callithrix jacchus
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15-JUN-2002 (Rel. 41,
15-JUN-2002 (Rel. 41,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              247
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PS00251; TNF_1; 1.

PS00251; TNF_2; 1.

TUMOR NECROSIS FACTOR LIGAND MEMBER 5, MEMBERNE FORM LIGAND TUMOR NECROSIS FACTOR LIGAND TOMOR NECROSIS FORM (BY S.)

TOMOR NECROSIS FORM (BY S.)
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35; Conservative
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; Chordata; Craniat
; Primates; Platyrr
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25.9%;
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Pred. No. 1.2;
21; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         POTENTIAL.
N-LINKED (GLCNAC. . .) (POTENTIAL).
85E1588B507901B5 CRC64;
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SIGNAL-ANCHOR (TYPE-II MEMBRANE
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                                                                                                                                                                                                                                                                 Platyrrhini;
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                                                                                                             King C.L.,
        TNFRSF5.
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RESULT 11
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ID TN14,
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                                                      TNI4 HUMAN STANDARD; PRT; 240 AA. 04357; 075476; Q96LD2; Q8WVF8; 16-CCT-2001 (Rel. 40, Created) 16-CCT-2001 (Rel. 40, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update) Tumor necrosis factor ligand superfamily membediator-ligand) (HVEM-L).
TNFSF14 OR LIGHT OR HVEML.
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Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ProDom; PD002012; TNF_abc; 1.
ProDom; PD008600; TNF_5; 1.
SMART; SM00207; TNF; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or send an email to license@isb-sib.ch).
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SUBUNIT: HOMOTRIMER (By similarity).

SUBCELLULAR LOCATION: Type II membrane protein. Also exists as extracellular soluble form (By similarity).

PTM: The soluble form derives from the membrane form by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              proteolytic processing (By similarity).
SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TVSGWEE----TKINSSSPLRYDRQIGEFTVIRAGLYYLYCQVHFDEGKAVYLKLDLLVN 160
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IPR003636; TNF_abc.
IPR000478; TNF_family.
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25.9%;
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TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY
MEMBER 5, MEMBRANE FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Œ;
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Pred.
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CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN
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TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY
MEMBER 5, SOLUBLE FORM (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     POTENTIAL.
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                                                                                                                            entry
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EMBL; AF036581; AAC39563.1; EMBL; AF064090; AAC25169.1; EMBL; AY028261; AAK26160.1; EMBL; BC018058; AAH18058.1; AHSSP; P01375; 4TSV.

ALT_FRAME

There are no restrictions

9

for

.ch/announce/

Genew;

HGNC:11930;

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This SWISS-PROT entry is copyright. It is produced through a c between the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and fo entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
-I- FUNCTION: Cytokine that binds to TNFRSF3/LTBR. Binding to the decoy receptor TNFRSF6B modulates its effects. Activates NFKB, stimulates the proliferation of T cells, and inhibits growth of the adenocarcinoma HT-29. Acts as a receptor for Herpes simplex
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A. (ISOFORM 2), AND PROCESSING.
MEDLINE=21528948; PubMed=11673523;
Granger S.W., Butrovich K.D., Houshmand P., Edwards W.R., Ware (
"Genomic characterization of LIGHT reveals linkage to an immune response locus on chromosome 19p13.3 and distinct isoforms gener
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    growth.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  by alternate splicing or proteolysis.";
J. Immunol. 167:5122-5128(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Herpesvirus entry mediator ligand (HVEM-L); a novel ligand HVEM-TR2, stimulates proliferation of T cells and inhibits {\tt F}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=98438532; PubMed=9765287;
Harrop J.A., McDonnell P.C., Brigham-Burke M., Lyn S.D.,
Tan K.B., Dede K., Spampanato J., Silverman C., Hensley I
DiPrinzio R., Emery J.G., Deen K., Eichman C., Chabot-Fle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mauri D.N., Ebner R., Montgomery R.I., Kochel K.D., Yu G.-L., Ruben S., Murphy M., Eisenberg R.J., Cohe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Strausberg R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Truneh A., Young P.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. (ISOFORM 1),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "LIGHT, a new member of the TNF superfamily, and lymphotoxin alpha are ligands for herpesvirus entry mediator.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=98122340; PubMed=9462508;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ligands for herpesvirus entry mediator. Immunity 8:21-30(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bio1.
                                                                                                                                                                                                                                                                                                                PTM: N-glycosylated.

PTM: The soluble form of isoform 1 derives from the membrane form by proteolytic processing.

SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.

CAUTION: Ref.4 sequence differs from that shown due to a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUBUNIT: HOMOTIMET.
SUBCELLULAR LOCATION: Type II membrane protein and secreted
(isoform 1); Cytoplasmic (isoform 2).
ALTERNATIVE PRODUCTS: 2 isoforms; 1 (shown here) and 2/LIGHT
delta-TM; are produced by alternative splicing.
TISSUE SPECIFICITY: PREDOMINANTLY EXPRESSED IN THE SPLEEN BUT ALSO
FOUND IN THE BRAIN. WEAKLY EXPRESSED IN PERIPHERAL LYMPHOID
TISSUES AND IN HEART, PLACENTA, LIVER, LUNG, APPENDIX, AND KIDNEY,
TISSUES AND IN HEART, PLACENTA, LIVER, LUNG, APPENDIX, AND KIDNEY,
                                                                                                                                                                                                                                                                                                 frameshift in position 178.
                                                                                                                                                                                                                                                                                                                                                                                                                 NONHEMATOPOIETIC TUMOR LINES. INDUCTION: UPREGULATED AFTER T-CELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                      AND NO EXPRESSION SEEN IN FETAL TISSUES,
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                                                                                                                                                                                                                                                                                                                                                                                                                   ACTIVATION
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Cohen G.H.,
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Spear P.G.,
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RESULT 12
B3A2_MOUSE
ID ANOUSE STANDARD; PRT; 1237 AA.
AC p13808; O9ES13; O9ES12; O9ES10; O9ES09;
DT 01-JAN-1990 (Rel. 13, Created)
DT 15-JUN-2002 (Rel. 13, Last sequence update)
DT 15-JUN-2002 (Rel. 13, Last annotation update)
DE Anion exchange protein 2 (Non-erythroid band 3-like protein 3 (Non-erythroid band 3-like protein 3 (Non-erythroid band 3-like protein 3 (Non-erythroid band 3-like protein 3 (Non-erythroid band 3-like protein 3 (Non-erythroid band 3-like protein 3 (Non-erythroid band 3-like protein 3 (Non-erythroid band 3-related 4 (Non-erythroid band 3-related 4 (Non-erythroid band 3-related 4 (Non-erythroid band 3-related 4 (Non-erythroid band 3-related 5 (Non-erythroid band 3-related 5 (Non-erythroid band 3-related 5 (Non-erythroid band 3-related 5 (Non-erythroid band 3-related 5 (Non-erythroid band 3-related 6 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (Non-erythroid band 3-related 7 (N
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Best Local
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CONFLICT
SEQUENCE
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DISULFID
CARBOHYD
VARSPLIC
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PROSITE; PS50049; TNF_2; 1.
Cytokine; Cytotoxin; Transmembrane; Glycoprotein; Signal-anchor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ProDom; PD00201;
SMART; SM00207;
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InterPro; IPR000478;
Pfam; PF00229; TNF; 1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----KLDLLVNGVLALRCLEEFSATAASSPGPQLRLCQVSGLLPLRPGSSLRIRTLPWA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PILMETQLGLAFLRGLSYHDGALVVTKAGYYYIYSKVQLGGVGCPLGLASTITHGLYKRT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PFLEQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSS 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SCSVARVGLGLLLLLMGAGLAVQGWFLLQLHWRLGEMVT----RLP------DGPA
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57; Conser
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82
154
102
38
120
120
214
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240

83

187

102

73

120

214

26351 MW;
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TNF_family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7.48; 22.28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -GEFTVIRAGLYYLYCQVHFDE-----GKAVYL------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30;
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Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         L -> V (IN REF. 4).
E -> K (IN REF. 2).
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N-LINKED (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----HEVNPAAHLTGANSSLTG------
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY MEMBER 14, SOLUBLE FORM.
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EXTRACELLULAR (POTENTIAL).
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                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEMBER 14,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       49D0BF67E1390B39 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               87;
                                TISSUE SPECIFICITY
                                                                                                                 H.F.;
| 3-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
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                                                                                                                                                                                                                                                                                                                                              protein) (B3RP)
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GLREEAVFGAHGCSVCR (IN ISOFORM C2).. A -> G (IN REF. 2).

ERTSPSPPTQTPHQEAAPRASKGAQTG

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MPAFQEWKSG

MSSAPRRPASGADSLHT -> MTQ MISSING (IN ISOFORM C2). MISSING (IN ISOFORM C1).

OLW

(IN

ISOFORM

MDFLLRPQ (IN ISOFORM

N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
PALMITATE (BY SIMILARITY).
MSSAPRRPASGADSLHT -> MDFLLRPQ (IN I

HIS-RICH

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EMBL; J04036; AAA65505.1; -. EMBL; AF255774; AA623154.1; -. EMBL; AF255774; AA623156.1; -. EMBL; AF255774; AA623156.1; -. EMBL; AF255774; AA623158.1; -. EMBL; AF255774; AA623157.1; -. EMBL; AF255774; AA623157.1; -. PIR; A31789; A31789.
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DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR001717; Anion_exchange InterPro; IPR003020; HCO3_cotransp. Pfam; PF00955; HCO3_cotransp; 5. PRINTS; PR01331; HCO3TRNSPORT. TIGRRAMS; TIGR00834; ae; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             use by non-profit institutions as long modified and this statement is not removed entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       exchanger gene.";
Biochem. Biophys.
                                                                                                                                     TRANSMEM
                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                           Anion exchange;
                                                                                                                                                                                                                                                                                                                                                                                     Transmembrane; Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE; PS00219; ANION_EXCHANGER_1; PROSITE; PS00220; ANION_EXCHANGER_2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSP; P02730; 1BTQ.
MGD; MGI:109351; Slc4a2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lecanda J., Urtasun R., Medina J.F.;
"Molecular cloning and genomic organization of the mouse AE2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             levels in all tissues examined. Isoforms bi and b2 are predominantly expressed in stomach although they are also detected at lower levels in other tissues. Isoform c1 is stomach-specific. Isoform c2 is expressed at slightly higher levels in lung and stomach than in other tissues.

SIMILARITY: BELONGS TO THE ANION EXCHANGER FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUBCELULIAR LOCATION: Integral membrane protein.
ALTERNATIVE PRODUCTS: 5 isoforms; a (shown here), b1,
c2; are produced by alternative splicing.
TISSUE SPECIFICITY: Isoform a is widely expressed at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PUNCTION: PLASMA MEMBRANE ANION EXCHANGE PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DISTRIBUTION.
                                                                                                                                                                                                                                                                                                                                                               Lipoprotein;
727
770
812
843
843
914
929
929
929
1006
1005
11053
11132
11132
11132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             _exchange
                                                                                                                                                                                                                                                                                                                                     Transport; Antiport; Ion transport; Palmitate; Alternative splicing. CYTOPLASMIC (POTENTIAL).
                                        POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
                                                                                                                                                                                                  POTENTIAL. EXOPLASMIC LOOP (POTENTIAL).
                                                                                                                                                                                                                                                                                                                  MEMBRANE
                                                                                                                                     POTENTIAL.
                                                                                                                                                          CYTOPLASMIC
                                                                                                                                                                                  POTENTIAL
                                                                                                                                                                                                                                                  POTENTIAL.
                                                                                                                                                                                                                                                                          POTENTIAL.
                                                                                                                                                                                                                                                                                               POTENTIAL.
                                                                                                                                                                                                                                                                                                                  (ANION EXCHANGE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (See http://www.isb-sib.ch/announce/
                                                                                                                                                          (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  b1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     similar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  b2,
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RESULT 13
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Best Local
Matches 5
                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE=93076854; PubMed=1280226;
Graf D., Korthaeuer U., Mages H.W., ?
"Cloning of TRAP, a ligand for CD40,"
"Cloning of TRAP, 22:3191-3194(1992).
                               SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
SPI19S M.K., Armitage R.J., Strockbine L.,
Macduff B.M., Sato T.A., Maliszewski C.R.,
"Recombinant human CD40 ligand stimulates |
immunoglobulin E secretion.";
J. Exp. Med. 176:1543-1550(1992).
                                                                                                                                                Aruffo A., Farrington M., Hollenbaugh D., Li X., Milatovic Nonoyama S., Bajorath J., Grosmaire L.S., Stenkamp R., Net Roberts R.L., Noelle R.J., Ledbetter J.A., Francke U., Ool "The CD40 ligand, gp39, is defective in activated T cells patients with X-linked hyper-IgM syndrome.";
                                                                                                                                                                                                                                                   "The human T cell antigen gp39, a member ligand for the CD40 receptor: expression with B cell co-stimulatory activity."; EMBO J. 11:4313-4321(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-APR-1993 (Rel. 25, Created)
01-APR-1993 (Rel. 25, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor ligand superfamily member
L) (TNF-related activation protein) (TRAP) (T ce
                                                                                                                                      patients with
Cell 72:291-30
                                                                                                                                                                                                                                                                                                             MEDLINE-93049181; PubMed-1385114;
Hollenbaugh D., Grosmaire L.S., Kullas C.
Braesch-Andersen S., Noelle R.J., Stamenk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (CD154 antigen).
TNFSF5 OR CD40LG OR CD40L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TNF5_HUMAN P29965;
 MEDLINE-93138085;
          SEQUENCE
                                                                                                                                                                                                                            SEQUENCE FROM N.A., AND VARIANTS
                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (Human)
                                                                                                                                                                                                                 MEDLINE-93145330;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SSSPLRYDRQIGEFTVIRAGLYYLYCQVHFDEGKAVYL---KLDLL-----VNGVL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RKARPRRAIAAHYEVHPRPGQDGAQAGV--
                                                                                                                                       72:291-300(1993).
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57; Conserv
             FROM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HQEAAPRASK-GAQTGTLVEEMVAVASATAGGDDGGAAGRPLTKAQPGH
                                                                                                                                                                                                  PubMed=7678782;
gton M., Hollenbaugh
PubMed=7678552;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 86.5;
Pred. No. 8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Craniata; Vertebrata; Catarrhini; Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           307
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on human
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                                                                                                                                                                                                                                                                           of the TNF gene family, is of a soluble form of gp39
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                                                             В
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                                                                                                                                                                                                                                                                                                                                                                                          an T
                                                         , Clifford K.N.,
Fanslow W.C.;
B cell proliferation
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cell
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cells.";
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Ochs H.D.
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 MEDLINE-95233438; PubMed-7717401;
Macchi P., Villa A., Strina D., Sacco M.G., Macchi P., Villa A., Strina D., Sacco M.G., Maltiani S., Mantuano E., Fasth A., Andersson Cavagni G., Reznick I., Levy J., Zan-Bar I., Plebani A., Vezzoni P., Notarangelo L.D.;
"Characterization of nine novel mutations in patients with X-linked hyper IgM syndrome of Am. J. Hum. Genet. 56:898-906(1995).
                                                                                                                                                                                   VARIANTS HIGM1 PRO-155; ASP-211 AND VAL-227.

MEDLINB-93174270; PubMed-7679801;

Allen R.C., Armitage R.J., Conley M.E., Rosenblatt Copeland N.G., Bedell M.A., Edelhoff S., Disteche C Simoneaux D.K., Fanslow W.C., Belmont J.W., Spriggs "CD40 ligand gene defects responsible for X-linked syndrome.":
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Singh J., Garber E., van Vlijmen H.,
Zheng Z., Naismith J.H., Thomas D.;
"The role of polar interactions in the
with its receptor CD40.";
Protein Sci. 7:1124-1135(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pietravalle F., Lecoanet-Henchoz S., Blasey H. Edgerton M.D., Bonnefoy J.-Y., Gauchat J.-F.; "Human native soluble CD40L is a biologically inside microsomes.";
           VARIANTS HIGM1 PROMEDLINE-96133533;
                                                                                                                                                                  syndrome.";
Science 259:990-993(1993).
                                                                                                                                                                                                                                                                                      de Saint Basile G. "CD40 ligand mutat
                                                                                                                                                                                                                                                                                                           MEDLINE=93156840; PubMed=8094231; Disanto J.P., Bonnefoy J.Y., Gauc
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MEDLINE-93156839; PubMed-7679206;
KOrthaeuer U., Graf D., Mages H.W., B
Malcolm S., Ugazio A.G., Notarangelo
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Chess L., Thomas D.
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MEDLINE=96131874; PubMed=8589998;
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Submitted (FEB-1995)
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                                                                                                                                                                                                                                                                                                                                                            "Defective expression of T-cell CD40 immunodeficiency with hyper-IgM."; Nature 361:539-541(1993).
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                       PRO-155
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O-155 AND VAL-227,
PubMed-8550833;
, Allen R.C., Larch
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A., Andersson B., Zegers B.J.M.,
Zan-Bar I., Porat Y., Airo P.,
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                       VARIANT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Enthe European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               X-linked hyper-igm syndrome.";
Hum. Genet. 99:624-627(1997).
-I- FUNCTION: MEDIATES B-CELL PROLIFERATION IN THE ABSENCE OF STIMULUS AS WELL AS IGE PRODUCTION IN THE PRESENCE OF IL-0 INVOLVED IN IMMUNOGLOBULIN CLASS SWITCHING.
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Yata J.-I., Och
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MEDLINE-97295077; PubMed-9150729;
                                                 Pfam; PF00229;
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S25684; S25684.
S25694; S25694;
S2694; S2694;
S28017; S28017.
S28852; S28852.
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PROTEOLYTIC PROCESSING.

DISEASE: DEFECTS IN THRESTS ARE THE CAUSE OF AN **LINKED**
IMMUNODE/CELICIENCY WITH HYPER-IGM (HIGM1), AN IMMUNOGLOBULIN ISOTYPE
SWITCH DEFECT CHARACTERIZED BY ELEVATED CONCENTRATIONS OF SERUM
IGM AND DECREASED AMOUNTS OF ALL OTHER ISOTYPES. AFFECTED MALES
PRESENT AT AN EARLY AGE (USUALLY WITHIN THE FIRST YEAR OF LIFE)
RECURRENT BACTERIAL AND OPPORTUNISTIC INFECTIONS, INCLUDING
PNEUMOCYSTIS CARINII PNEUMONIA AND INTRACTABLE DIARRHEA DUE TO
CRYPTOSPORIDIUM INFECTION. DESPITE SUBSTITUTION TREATMENT WITH
INTRAVENOUS IMMUNOGLOBULIN, THE OVERALL PROGNOSIS IS RATHER POOR,
WITH A DEATH RATE OF ABOUT 10% BEFORE ADOLESCENCE.
SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
DATABASE: NAME-CD401Dase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WWW-"http://www.ncbi.nlm.nih.gov/prow/cd/cd54.htm".
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TISSUE SPECIFICITY: SPECIFICALLY EXPRESSED ON
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1ALY; 17
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Z15017; CAA78737.1;
X67878; CAA48077.1;
107414; AAA35662.1;
D31797; BAA06599.1;
D31794; BAA06599.1;
D31794; BAA06599.1;
              SM00207;
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IPR003636; TNF_abc.
IPR000478; TNF_family.
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Best Local :
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                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a celebrate the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and formatified and this statement is not removed. Usage by and formatified and this statement is not removed.
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15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor ligand superfamily member
L) (CD154 protein)
TNESS OR CD40LG OR CD40L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PS00251; TNF_1; 1.

PROSITE; PS50049; TNF_2; 1.

Cytokine; Transmembrane; Glycoprotein; Signal-anchor; Antigen;

Disease mutation; Polymorphism; 3D-structure.

CHAIN 1 261 TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY
                                               EMBL; AF344859; AAK37541.1; -.
EMBL; AF344841; AAK37600.1; -.
HSSP; P29965; 1ALY.
                                                                                                                                                   entitles requires a license agreement (
or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                Weiss W.R., Ansarl A.A.; "Cloning, sequencing and homology analysis of "Cloning, sequencing and co-stimulatory molecules.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SPECIES-M.mulatta, and C.torquatus MEDLINE-21383618; PubMed-11491535;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cercocebus torquatus atys (Red-crowned mangabey) (Sooty mangabey) Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MACMU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fas/Fas-ligand and co-stimulatory Immunogenetics 53:315-328(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A., AND M.MULATTA VARIANTS GLN-60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9BDC7;
15-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cercopithecinae; Macaca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TNF5_MACMU
                          InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Villinger F., Bostik P., Mayne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID-9544, 9531;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Macaca mulatta (Rhesus macaque),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    136
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               105 TYSGWEE----TKINSSSPLRYDRQIGEFTVIRAGLYYLYCQVHFDEGKAVYLKLDLLVN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               247
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  THR-215.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FUNCTION: Cytokine that binds to TNFRSF5. Mediates B-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GVLALRCLEEF - - - - - SATAASSPGPOLRLC - - - - OVSGLLPLRPGSSLRIRTLPWAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VSHGTGFTSFGLLKL
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                          IPR003263;
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A.E., King
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -CGQQSIHLGGVFELQPGASVFVNVTDPSQ
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                                                                                                                                                                          (See
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                                                                                                                                                                          http://www.isb-sib.ch/announce/
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CARBOHYD
VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TNF5_MACNE STANDARD;

Q9BDM7;

15-JUN-2002 (Rel. 41, Created)

15-JUN-2002 (Rel. 41, Last seq

15-JUN-2002 (Rel. 41, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARIANT VARIANT
               "Cloning, sequencing, and homology analysis of nonhuman Fras/Fas-ligand and co-stimulatory molecules."; Immunogenetics 53:315-328(2001).
-!- FUNCTION: Cytokine that binds to TNFRSF5. Mediates B proliferation in the absence of co-stimulus as well production in the presence of IL-4. Involved in immu class switching (By similarity).
-!- SUBCELLULAR LOCATION: Type II membrane protein. Also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MACNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SITE
                                                                                                                                                                                                                     Weiss W.R., "Cloning, s
                                                                                                                                                                                                                                                                                          TISSUE-Lymphocytes; MEDLINE-21383618; PubMed-11491535;
                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                     Cercopithecinae; Macaca.
NCBI_TaxID=9545;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Macaca nemestrina (Pig-tailed
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               L) (CD154 protein).
TNFSF5 OR CD40LG OR CD40L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-JUN-2002 (Rel. 41, Last sequence update)
T15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor ligand superfamily member 5 (CD40 ligand) (CD40-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CHAIN
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                                                                                                                                                                                                                                                                Villinger F., Bostik P., Mayne A.E., King C.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     161 GYLALRCLEEF-----SATAASSPGPQLRLC-----QVSGLLPLRPGSSLRIRTLPWAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           136 SVLQWAEKGYYTMSNNLVTLENGKQL---TVKRQGLYYIYAQVTFCSNREASSQAPFIAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      105 TVSGWEE----TKINSSSPLRYDRQIGEFTVIRAGLYYLYCQVHFDEGKAVYLKLDLLVN 160
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             --- LCLKSPGRFERILLRAANTHSSAKP---
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215
261 AA;
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TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21;
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H -> Q (IN M.MULATTA).
I -> V (IN M.MULATTA).
L -> P (IN M.MULATTA).
A -> T (IN M.MULATTA).
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SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                macaque).
Craniata; Vertebrata; Euteleostomi;
Catarrhini; Cercopithecidae;
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CYTOPLASMIC (POTENTIAL).
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(By similarity)
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                    II membrane protein. Also exists as
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ved in immunoglobulin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entities requires a license agreement
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                                                                                                                                                                                                                                                                                                                                                              Sytokine;
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SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
TGFTSFGLLKL
                         PFLTYFGLFQV
                                                    LKSPGRFERILLRAANTHSSTKP---
                                                                                                    HAEKGYYTMSNNLYTLENGKQL---TVKRQGLYYIYAQVTFCSNREASSQAPFIAS--LC
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26.0%;
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TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY
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SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                            EXTRACELLULAR (POTENTIAL). CLEAVAGE (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                           TUMOR NECROSIS FACTOR LIGAND MEMBER 5, SOLUBLE FORM (BY SI
                                                                                                                                                                                                                                   POTENTIAL.
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ALIGNMENTS

R.Nierman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; K n, J.; Ermolaeva, M.; White, O.; Salsory, S.L.; Shapiro, L.; Venter, J.C.; Fraser, Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001
A;Title: Complete Genome Sequence of Caulobacter crescentus.
A;Reference number: A87249; MUID:21173698; PMID:11259647 Ş Ω B Qy C;Genetics: A;Gene: CC1168 A; Reference number: A87249; A; Accession: D87394 A; Status: preliminary A; Molecule type: DNA A; Residues: 1-210 <5T0> hypothetical protein CC1168 [imported] - Caulobacter crescentus C;Species: Caulobacter crescentus C;Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 밁 C; Accession: A;Cross-references: GB:AE005673; NID:g13422488; PIDN:AAK23152.1; GSPDB:GN00148 Query Match 7.8%; Score 90.5; I Best Local Similarity 26.2%; Pred. No. 1.6; Matches 33; Conservative 19; Mismatches 149 EGFDFD 154 32 LRLGLAVFAAGVAATVIVQAAWRSLASSKLQTQAATAPLVLDKPRF---TGVLKDGRPFL 88 2 LSIGIALACIGILLIVVVSLGSWATISAQEPSQEELTAEDRREPPELNPQTEESQDVVPFL 61 EQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGV----DGTVSGWEETKINSS 117 SPLRYD 123 ITAERAERDAKDQNIVRLTAPLLVRGYGEPNPSQATAKSGVYREAENTLLLTDEVKITSA 148 D87394 В <u>ب</u> 67; Indels Length 210; 20-Apr-2001 7; Gaps ž

C.Accession: C83040

R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000

A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an A;Reference number: A82950; MUID:20437337; PMID:10984043

A;Accession: C83040

A;Status: preliminary

sequence of Pseudomonas aeruginosa PA01, an opportunistic
50; MUID:20437337; PMID:10984043

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Hickey, Larbig,

ж. .

hypothetical protein PA4851 [imported] - Pseudomonas aeruginosa (strain PAO1) C;Species: Pseudomonas aeruginosa C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000

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alkaline phosphatase (EC 3.1.3.1) precursor, placental-like - human N;Alternate names: alkaline phosphatase Nagao isozyme; germ-cell alkaline phosphatase Nagao isozyme; germ-cell alkaline phosphatase in the phosphatase in 
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A;Title: The attachment protein of hendra virus has high structural similarity A;Reference number: Z16405; MUID:99058172; PMID:9837786
A;Accession: T08209
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C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 21-Jul-2000
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A;Gene: PA4851
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A;Cross-references: GB:AE004898; GB:AE004091; NID:g9951115; PIDN:AAG08236.1; GSPDB:GN001
A;Experimental source: strain PAO1
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A; Residues: 1-352 < YUM>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  M.; Hansson, E.; Lang
ogy 251, 227-233, 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  197
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLRYDRQIGEFTVIRAGLY 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVVRSHPEFSGALVVDAIIYNRASFSQPFPLLELRFADLNGHLIANRRFKPGEYL 381
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QEPSLGEPLAEERVSFVPLRRAEDPPELRLSLDDDDDDDEPSLGKRRHGLSALDEDDEESA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YL--YCQVHFDEGKAVY------LKLDLLVNGVLALRCLEEFSATAASSPGPQLRLCQV 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LGWLLLILLALGGLAAQYIAYHFDELARQDAYRPWFAQLCPEIGCTLPSKVDVEQIRSSN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7.8%;
22.6%;
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                                                                                                                                                                                                                                                                                                                                                                                                                          207
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Pred. No. 3.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 89; I
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ------GKAVYLKLDL--LVNGV 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 2;
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R;Millan, J.L.; Manes, T.
Proc. Natl. Acad. Sci. U.S.A. 85, 3024-3028, 1988
A;Title: Seminoma-derived Nagao isozyme is encoded by a A;Reference number: A31336; MUID:88203632; PMID:2834730
A;Accession: A31336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Molecule type: mRNA
A;Residues: 1-379,'L',381-497,'R',499-532 <WAT>
A;Cross-references: GB:J04948; NID:g178418
A;Cross-references: GB:J04948; NID:g178418
R;Shen, L.P.; Llu, H.; Kan, Y.W.; Kam, W.
Nucleic Acids Res. 16, 5694, 1988
Nucleic Acids Res. 16, 5694, 1988
A;Title: 5' nucleotide sequence of a putative human placental alkaline phosphatase-li
A;Reference number: S00974; MUID:88262578; PMID:3387245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F;1-19/Domain: signal sequence #status predicted <SIG>
F;20-503/Product: alkaline phosphatase, placental-like #status predicted
F;304-532/Domain: carboxyl-terminal propeptide #status predicted <CTP>
F;111/Active site: Ser (phosphoserine intermediate) #status predicted
F;141_268/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A;Cross-references: EMBL:X55958; NID:g296797; PIDN:CAA39425.1; R;Watanabe, S.; Watanabe, T.; L1, W.B.; Soong, B.W.; Chou, J.Y. J. Biol. Chem. 264, 12611-12619, 1989
A;Title: Expression of the germ cell alkaline phosphatase gene A;Reference number: A34333; MUID:89308696; PMID:2745460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Superfamily: alkaline phosphatase
C;Keywords: blocked carboxyl end; glycoprotein; homodimer; lipoprotein; membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: DNA
A;Residues: 1-56,'M',58-151,'V',153-315,'L',317-532 <MIL>
A;Cross-references: GB:J03252; NID:g178427; PIDN:AAA98616.1; PID:g178428; GB:J03512
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A;Accession: 137991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Title: Molecular cloning of complementary DNAs encoding alkaline phosphatase in A;Reference number: $12076; MUID:90124311; PMID:2297757 A;Accession: $12076 A;Accession: $12076 A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F;503/Modified site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          F;185/Binding site: substrate phosphate (Arg) *status predicted F;339,379,451/Binding site: zinc (His) *status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C; Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Introns: 23/1; 62/1; 100/3; 159/1; 216/3; 261/3; 286/1; 331/1; A; Note: the first intron occurs before the initiator codon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Molecule type: DNA
A;Residues: 1-157 <SHE>
A;Cross-references: EMBL:X07247; NID:g35509
A;Note: the authors translated the codon CCG
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A;Residues: 1-151,'V',153-532 <LOW>
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A;Cross-references: EMBL:X53279; NID:g28624; PIDN:CAA37374.1;
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A; Residues: 1-177, 'A'
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                                                                                                                                                                                                                                                                                                     76 KARPRRAIAAHYEV---HPRPG---QDGAQAGVDGTVSGWEETKINSSSPLRYDRQIGEF 129
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                                                                                                                     FARGPOAH-----LVHGVQEQTFIAHVMAFAACLEPYTACDLAPP
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                                                                                                                                                                                                                                                                                                                                                                                              Score 88; Pred. No. 7
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7.3;
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PID:g28625
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C;Keywords: transmembrane protein
                                                                                                                                                                                                                                                                                                                                                                A; Cross-references: GB:L11015; NID:g292276; PIDN:AAA36191.1; A; Note: sequence extracted from NCBI backbone (NCBIN:128066,
                                                                                                                                                                                                                                                                                                                                                                                                      A;Status: preliminary
A;Molecule type: DNA; protein
A;Residues: 1-244 <BRO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Title: Lymphotoxin beta, a novel member of the TNF fal
A; Reference number: A46066; MUID:93208881; PMID:7916655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;Browning, J.L.; Ngam-ek, A.; Lawton, P.; DeMarinis, Cell 72, 847-856, 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Lymphotoxin beta - human
C;Species: Homo sapiens (man)
C;Date: 21-Sep-1993 #sequence_revision 18-Nov-1994 #text_change 21-Jul-2000
C;Accession: A46066
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Species: Caulobact
C; Date: 20-Apr-2001
C; Accession: A87348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A46066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: GB:AE005673; C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
A; Residues: 1-670 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Reference number: A87249; A; Accession: A87348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001
A;Title: Complete Genome Sequence of Caulobacter crescentus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Accession: A46066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Gene: CC0796
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                                                                                                                                                                                                                                                                                        Local
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  DLLVNGVLALRCLEEFSATAASSPG-PQLRL---
                                    GWETTKEQAFLTSGTQFSDAEG-LALPQDGLYYLYCLVGYRGRAPPGGGDPQGRSVTLRS 161
                                                                          GWEETKINS--SSPLRYDRQIGEFTVIRAGLYYLYCQVHF--
                                                                                                                                                    NPQTEESQDVVPFLEQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVS 107
                                                                                                                                                                                                                              SLGLALA----CLGLLLVVVSLGSWATLSAQEPSQEELTAEDR------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GRTVKVPLSFLGNGAFSAEIREDGAEPTALKTRTQSVASKDTLTLKLAPGGGGVIRISP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPFTRMLLGPMDYTPGGFRNVAPKDFKSQFILPTVQTTRGQALAMYVVYDSPLTMVSDSP 557
                                                                                                                                                                                        SLLLAVAGATSLYTLLLAVPITVLAVLALVPQDQGGLVTETADPGAQAQQGLGFQKLPEE 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ITYAASPAGLDFISAVPTSWDETRVLSG------EIGQYIVIARRKGADWWVGAMTNEA 610
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                                                                                                                                                                                                                                                                                    7.5%;
23.0%;
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Pred. No. 10;
24; Mismatches
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Pred.
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    Caulobacter crescentus

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No. 10;
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3.7;
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NCBIP: 128067)
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189
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A;Cross-references: GB:J04
C;Superfamily: band 3 anio
C;Keywords: transmembran-
                                                                                         C;Species: Mus musculus (house mouse)
C;Date: 21-May-1990 #sequence_revision 21-May-1990 #text_change 2
C;Accession: A31789
R;Alper S;L.; Kopito, R.R.; Libresco, S.M.; Lodish, H.F.
J. Biol. Chem. 263, 17092-17099, 1988
A;Title: Cloning and characterization of a murine band 3-related A;Reference number: A31789; MUID:89034212; PMID:3182834
A;Accession: A31789
A;Molecule type: mRNA
A;Molecule type: mRNA
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C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change
C;Accession: A83035
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, J. Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
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C; Superfamily:
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                                                                                                                                                                                                                                                                              band 3-related protein -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-340 <STO>
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C:Species: Pseudomonas aeruginosa
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               77
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                                                                                                                                                                                                                                                                                                                                                                                                                           RPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G---,--PVESASEAALAWRQGLLVADDMPLR---QWAGELMRYGGESIE-CEPS-LDPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GLYYLYCQVHFDEGKAVYLKLDLLYNGVLALRCLEEFSATAASSPGPQLRLCQVSGLLPL 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EGAETVLAV-YEGAVQVRP--EGAASAADGRV-----IEAGQRVRFDRQ------RI 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GLALLLGGAPLVWWGWRAQVWRDGFGADYLTAVGERRDLVLEDGSQVEMNTDSALDVRYD 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GLLPLRPGSSLRIRTLPWAHLKAAPFL---TYFGLFQV
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              transmembrane protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
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                                    GB:J04036; NID:g192132; 3 anion transport prote
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                                    transport protein
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Pred. No. 6;
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                                                     PIDN: AAA65505.1;
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                                                       PID:g309114
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                                                                                                                                                         cDNA from kidney
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Query Match

7.48;

Score 86.5;

ВB

2

Length 1237;

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C;Keywords: glycoprotein; transmembrane protein
F;13-44/Domain: transmembrane #status predicted <TMM>
F;45-261/Domain: extracellular #status predicted <EXT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;Species: Homo sapiens (man)
C;Date: 02-Jul-1996 #text_change 20-Apr-2001
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 20-Apr-2001
C;Accession: S28017; JH0793; S26694; S28852; I53476; S25684; S30593
C;Accession: S28017; JH0793; S26694; S28852; I53476; S25684; S30593
ER;HOllenbaugh, D.; Grosmaire, L.S.; Kullas, C.D.; Chalupny, N.J.; Braesch-Andersen, EMBO J. 11, 4313-4321, 1992
                                                                              F;6,240/Binding site:
                                                                                                                                                                                                                A;Gene: GDB:CD40LG; HIGM1; IMD3
A;Cross-references: GDB:120632; OMIM:308230
                                                                                                                                                                                                                                                                                                                                                                                                             R; Gauchat, J.F.; Aubry, J.P.; Mazzei, G.; Life, P.; Jomotte, T.; Elson, G.; Bonnefoy FEBS Lett. 315, 259-266, 1993
A; Title: Human CD40-ligand: molecular cloning, cellular distribution and regulation A; Reference number: S28852; MUID:93138085; PMID:7678552
A; Accession: S28852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:X67878; NID:g38411; PIDN:CAA48077.1; PID:g38412 A;Experimental source: peripheral blood T-cell A;Experimental source: u.; Mages, h.W.; Senger, G.; Kroczek, R.A. R;Graf, D.; Korthaeuer, U.; Mages, h.W.; Senger, G.; Kroczek, R.A. Eur. J. Immunol. 22, 3191-3194, 1992 Eur. J. Immunol. 22, 3191-3194, 1992 A;Title: Cloning of TRAP, a ligand for CD40 on human T cells.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Title: Recombinant human CD40 ligand stimulates B cell A;Reference number: JH0793; MUID:93094757; PMID:1281209 A;Accession: JH0793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Title: The human T cell antigen gp39, a member of the A; Reference number: S28017; MUID:93049181; PMID:1385114
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A; Residues: 1-261 <GAU>
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A; Residues: 1-261 <GRA>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Title: Cloning of TRAP, a ligand for CD40 on human T cells A; Reference number: S26694; MUID:93076854; PMID:1280226
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A; Residues: 1-261 <SPR>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Accession: S28017
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                                                                                                                                                                                                                                                                                                    ;Residues: 1-401 \.....;Cross-references: EMBL:L07414;
                                                                                                                                                                                                                                                                              Genetics:
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; Residues: 1-261 <HOL>
                            Query Match
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                                                                            carbohydrate (Asn) (covalent)
. 7.48;
25.98;
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                                                                                                                                                                                                                                                                                               NID:g180123; PIDN:AAA35662.1; PID:g180124 is inconsistent with that from Fig. 2 in
Score 86;
Pred. No.
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Mismatches
  DB 2;
4.9;
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C; Accession: R; Suda, T.; T; Cell 75, 1169
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A49266
Cell 75, 1169-1178, 1993
Cell 75, 1169-1178, 1993
A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and expression of the Fas ligand, A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A;Title: Molecular cloning and A
                                                                                                                                                                                                     C;Species: Rattus norvegicus (Norway rat)
C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 05-Nov-1999
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A; Residues: 1-1237 <CHO>
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Be: cDNA cloning and localization of a band 3-related prence number: A56764; MUID:93035730; PMID:1415547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            136
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       210 LKAAPFLTYFGLFQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21 GSWATLSAGEPSGEELT-AEDRREPPELNPGTEESGDVVPFLEGLVRPRRSAPKGRKARP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AKGSAQSSREGREPGPTPR 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QERRRIGSMTGAEQA----LLPRVPTDESEAQTLATADLDLMKSHRFEDVPGVRRHLVRKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RRAIAAHYEVHPRPGQDGAQAGV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FSATAASS----PGPQLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RYDRQIGEFTVIRAGLYYLYCQVHFDEGKAVYL---KLDLL-----VNGVLALRCLEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --TLLPHQEAAPW-ATEGAQTGVPVEEVAVVASGTAGGDNGGASGRPLTKAQPGHRSYNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATPTIEEGEEDEEEANEAEGARAPTEPSPASTPS-SVQFFLQEDEGAERKAERTSPSPP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --LCLKSPGRFERILLRAANTHSSAKP----CGQQSIHLGGVFELQPGASVFVNVTDPSQ 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SVLQWAEKGYYTMSNNLYTLENGKQL---TVKRQGLYYIYAQVTFCSNREASSQAPFIAS 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TVSGWEE----TKINSSSPLRYDRQIGEFTVIRAGLYYLYCQVHFDEGKAVYLKLDLLVN 160
                                                                                                                                             Takahashi, T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  35;
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                                                                                                                                                 Golstein, P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7.3%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                             Nagata,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----DGTVSGWEETKI---NSSSPL 120
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                                                                          novel member of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 42;
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A; Molecule type: mRNA A; Residues: 1-278 <SUD> A; Cross-references: GB:C; Keywords: glycoprotein

glycoprotein;

transmembrane

Score

84; protein

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2;

Length

278;

NID:g440178; PIDN:AAC52129.1;

PID:g440179

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GB:U03470;

A; Status: preliminary

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hypothetical protein C35C5.1 - Caenorhabditis elegans
c;Species: Caenorhabditis elegans
c;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 18-Feb-2000
C;Accession: T19756; T21561
R;White, S.
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A;Residues: 1-2962 <WI2>
A;Cross-references: EMBL:Z78543; PIDN:CAB01756.1; GSPDB:GN00028;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Residues: 1-2962 <WIL>
A;Cross-references: EMBL:278417; PIDN:CAB01693.1; GSPDB:GN00028; CESP:C35C5.1
A:Experimental source: clone C35C5
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A; Accession: T21561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               submitted to the EMBL Data Library, August 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Reference number: A; Accession: T19756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 submitted to the EMBL Data Library, A; Reference number: Z19173
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                                                                                                                                                                                                                                                                                                                                                                                                                          A; Experimental source: clone F29G6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                         A; Introns:
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                                                                                                                                                                                                                                                                                                                                                                           Map position:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local
                                                                                                                                                                                                                        128
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                 295
                                                 190 GLLPLRPGSSLRIR 203
                                                                                                                                                    185 KTSKLVAEVVHDHPRPVNYRMKPAVTDDGKVVEQKRTRVTRNIMSHTIPQYHLEGEETEF
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                                                                                                                                                                                                                                                     29 QEPSQEELTAEDRREPPELNPQTEESQDVV-----PFLEQLVRPRRSAPK------GRKA 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15 LVVVSLGSWATLSAQEPSQEELTAEDRREPPELNPQTEESQDVVPFLEQLVRPRRSAPKG 74
                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GLYKL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TK-KPRS--VAHLTGNPRSRSIPLE------WEDTYGTALISGVKYKK--GGLVINE 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LVGMGLGMYQLFHLQ-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YCTTGQI---
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGLYYLYCQVHFDEGKA------VYLKLDLLVNGVLALRCLEEFSATAASSPGPQLR 184
                 NALKKHSGKQKRLK 308
                                                                                  GRVKESTLSKTIEQYLQAGKLVSPKCD
                                                                                                                  TVIRAGLYYLYCQVHFDEGKAVYLKLDLLVNGVLALRCLEEFSATAASSPGPQLRLCQVS 189
                                                                                                                                                                                     RPRRAIAAHYEVHPRPGQDGAQAGV--DGTVSGWEETKI-----NSSSPLRYDRQIGEF 129
                                                                                                                                                                                                                     EQELEEHLRNAYRHEEEEC---FEEEDDIIELPPLPVKPAVKKPRRKLPKHLSIESGSTA 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINS-SSPLRYDRQIGEFTVIR 133
                                                                                                                                                                                                                                                                                                                                                       373/3; 452/2; 525/2; 576/3; 598/3; 782/2; 894/1; 937/3; 1334/3; 1360/3;
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                                                                                                                                                                                                                                                                                          Conservative
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21.6%;
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                                                                                                                                                                                                                                                                            Score 84; DB 2; Lengum 2002
Pred. No. 1.1e+02;
""matches 91; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred. No. 7.8;
0; Mismatches
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                                                                                    -QFREQIVATAVEYDG-SVKMLQFE
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                                                                                                                                                                                                                                                                                                                      Length 2962;
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                                                                                                                                                                                                                                                                        RESULT
                               A; Experimental source: strain A3(2)
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                                                                                                                                                                                                                                                                                                                         233
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SCOEDB: SC3A3.09
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A;Cross-references: GB:AL591985; PIDN:CAC49248.1; PID:g15140734; GSPDB:GN001
A;Experimental source: strain 1021, megaplasmid pSymB
R;Galibert, F:, Finan, T.M.; Long, S.R.; Puhler, A.; Abola, P.; Ampe, F.; Ba
pela, D.; Chain, P.; Cowie, A.; Davis, R.W.; Dreano, S.; Federspiel, N.A.; F
L.; Hyman, R.W.; Jones, T.
Science 293, 668-672, 2001
A;Authors: Kahn, D.; Kahn, M.L.; Kalman, S.; Keating, D.H.; Kiss, E.; Komp, A;Authors: Kahn, D.; Kahn, M.L.; Kalman, S.; Weilis, D.H.; Wong, A;Title: The composite genome of the legume symbiont Sinorhizobium meliloti.
A; Reference number: A96039; MUID:21368234; PMID:11474104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Genome: plasmid C; Superfamily: Myo
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A;Title: The complete sequence of the 1,683-kb psymB megaplasmid from the N2-fixing A;Reference number: A95842; MUID:21396508; PMID:11481431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C; Date: 24-Aug-2001 #sequence_revision
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     probable conserved membrane-anchored protein SMb21182 [imported] - Sinorhizobium mel
C; Species: Sinorhizobium meliloti
                                                                                                                                                                        R; Seeger, K.J.; Harris, D.; submitted to the EMBL Data
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Gene: SMb21182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: DNA
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                                                      A; Molecule type: DNA
                                                                                                            A; Reference number: 221560
A; Accession: T34874
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A;Cross-references: EMBL:AL109849; PIDN:CAB52866.1; GSPDB:GN00070; SCOEDB:SC3A3
                              A; Residues: 1-467 <SEE>
                                                                                 A; Status: preliminary; translated
                                                                                                                                                                                                                                                                                                                     hypothetical protein SC3A3.09 - Streptomyces coelicolor
                                                                                                                                                                                                                                                            ;Species: Streptomyces coelicolor;Date: 05-Nov-1999 #sequence_revision
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                                                                                                                                                                                                                                 Accession: T34874
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                                                                                                                                                                           James, K.D.; Parkhill,
Library, August 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25;
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                                                                                       GB/EMBL/DDBJ
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D.H.; Wong, K.; Yeh
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R.Millan, J.L.
J. Biol. Chem. 261, 3112-3115, 1986
A;Title: Molecular cloning and sequence analysis of human A;Reference number: A25385; MUID:86140079; PMID:3512548
A:Accession: A25385
                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-24, 'L', 26-65, 'V', 67-262, 'H', 264-276, 'R', 278-284, 'A', 286-388, 'C', 390-393,
A; Cross-references: GB:M14170; NID:g178469; PIDN:AAA51709.1; PID:g178470
A; Note: parts of this sequence, including the amino end of the mature protein, were de
A; Note: this is polymorphism type 3; 89-Leu also found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     alkaline phosphatase (EC 3.1.3.1) precursor, placental (validated] - human %; Alternate names: glycerophosphatase; orthophosphoric-monoester phosphohydrolase, Regard C; Species: Homo sapiens (man) C; Date: 30-Sep-1987 #sequence_revision 28-Jul-1995 #text_change 08-Dec-2000 C; Accession: A31074; A27363; A24318; B24318; A25385; A94099; A94082; A28958; A90114; A243787, R; Knoll, B.J.; Rothblum, K.N.; Longley, M. J. Biol. Chem. 263, 12020-12027, 1988 A;Title: Nucleotide sequence of the human placental alkaline phosphatase gene. Evolution A; Reference number: A31074; MUID:88298886; PMID:3042787
                                                                                                                                                                                                                                                                                                                                          A; Molecule type: mRNA
A; Residues: 23-535 <HEN>
A; Cross-references: GB:M14169
A; Note: parts of this sequence, including the amino end of the
A; Note: this is polymorphism type 1; 67-Leu also found
A; Molecule type: mRNA
A; Residues: 1-230, 'P', 232-535 <MIL>
A; Cross-references: GB:M13077; NID:g178471;
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Proc. Natl. Acad.
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R;Henthorn, P.S.; Knoll, B.J.; Raducha, M.; Rothblum, K.N.; Slaughter, Proc. Natl. Acad. Sci. U.S.A. 83, 5597-5601, 1986
A;Title: Products of two common alleles at the locus for human placents
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Title: Two gene duplication events in the evolution of A; Reference number: A91586; MUID:88167830; PMID:3443302 A; Accession: A27363
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Gene 60, 267-276,
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A; Residues: 1-535 < KNO>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;Molecule type: mRNA;Residues: 1-76 <KN2>
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nes 57; Conser
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17;
  PIDN: AAC97139.1;
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Search completed: May Job time: 15.3772 secs

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A;Accession: A;Accession: A;Accession: A;Molecule type: protein
A;Molecule type: protein
A;Residues: 485-535 <MIC>
A;Esra, E.; Blacher, R.; Udenfriend, S.
R;Ezra, E.; Blacher, R.; Udenfriend, S.
Biochem. Biophys. Res. Commun. 116, 1076-1083,
Biochem. Biophys. Res. Commun. 116, 1076-1083,
A;Title: Purification and partial sequencing of
                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Description: catalyzes the hydrolysis of phosphate monoesters
C;Superfamily: alkaline phosphatase
C;Reywords: blocked carboxyl end; 9lycoprotein; homodimer; lipoprotein; membrane
E;1-22/Domain: signal sequence #status predicted <SIG>
E;23-506/Product: alkaline phosphatase, placental #status experimental <MAT>
F;507-535/Domain: carboxyl-terminal propeptide #status predicted <CTP>
E;114/Active site: Ser (phosphoserine intermediate) #status predicted
E;144,271/Binding site: carbohydrate (Asn) (covalent) #status predicted
E;144,274/Binding site: substrate phosphate (Arg) #status predicted
E;142,382,454/Binding site: zinc (His) #status predicted
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A; Note: a soluble or serum form was also found that may arise R; Kam, W.; Clauser, E.; Kim, Y.S.; Kan, Y.W.; Rutter, W.J. Proc. Natl. Acad. Sci. U.S.A. 82, 8715-8719, 1985
A; Title: Cloning, sequencing, and chromosomal localization of A; Reference number: A94082; MUID:86094295; PMID:3001717
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A;Map position: 2937.1-2937.1
A;Introns: 26/1; 65/1; 103/3; 162/1; 219/3; 264/3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Residues: 6-24,'L',26-260,'GE',263-323,'H',325-395,'FI',398-400,'A',402-535 <KAM>A;Cross-references: GB:M12551; NID:g178463; PIDN:AAAS1706.1; PID:g178464 R;Micanovic, R.; Bailey, C.A.; Brisk, C. Gerber, L.; Pan, Y.C.E.; Hulmes, J.D.; Ude Proc. Natl. Acad. Sci. U.S.A. 85, 1398-1402, 1988 A;Title: Aspartic acid-484 of nascent placental alkaline phosphatase condenses with A;Reference number: A28958; MUID:88144444; PMID:3422741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Ovitt, C.E.; Strauss, A.W.; Alpers, D.H.; Chou, J.Y.; Bc
Proc. Natl. Acad. Sci. U.S.A. 83, 3781-3785, 1986
A;Title: Expression of different-sized placental alkaline
A;Reference number: A94099; MUID:86233318; PMID:3459156
A;Accession: A94099
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Residues: 23-64 <EZR>
C; Comment: This is the form
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Reference number: A28958; A; Accession: A28958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Gene: GDB:ALPP; ALP1
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AGTTDAAHPGRSV
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43; Conserv
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27.9%;
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-VPALLPLLAGTLLLLET
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Pred. No.
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24;
531
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-Q-/G912_1/USPTC_SPOOL/US09245198/runat_06052003_170239_9605/app_query.fasta_1.846
-QB-N_Geneseq_101002 -QFM7-fastap -SUFFIX-rng -MINMATCH-0.1 -LOOPCL-0
-LOOPEXT-0 -UNITS-bits -START-1 -END-1 -MATRIX-blosum62 -TRANS-human40.cdi
-LIST-45 -DCGALIGN-200 -THR_SCORE-pct -THR_MAX=100 -THR_MIN-0 -ALIGN-15
-MODE-LOCAL -OUTFMT-pto -NORM-ext -HEAPSIZE-500 -MINLEN-0 -MAXLEN-200000000
-USER-US09245198_@CGN_1_1_323_@runat_06052003_170239_9605 -NCPU-6 -ICPU-3
-NO_XLPXY -NO_MMAP -LARGSQUERY -NGS_SCORES-0 -WAIT -DSPBLOCK-100 -LONGLOG
-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS-1 -XGAPOP=10 -XGAPEXT-0.5 -FGAPOP=6
-FGAPEXT-7 -YGAPOP=10 -YGAPEXT-0.5 -DELOP=6 -DELEXT-7
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Maximum Match 100%
Listing first 45 summaries
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Copyright (c) 1993 - 2003 Compugen Ltd.
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/SIDS2/gcgdata/geneseq/geneseqn-emb1/NA1984.DAT:*
/SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2001A, DAT:*
/SIDS2/gcgdata/geneseq/geneseqn-emb1/NA2001B.DAT:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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ALIGNMENTS

AAV18599 standard; CDNA; 1168

AAV18599;

21-JUL-1998 (first entry)

Mus musculus tumour necrosis factor related ligand (TRELL) gene.

RESULT 1
AAV1859
ID AAV1
XX
AAV1
AC AAV1
XX
DT 21-J
XX
DE Mus
XX
TREI
KW TREI
KW Graf
XX
GRAF
XX
GRAF
KW Graf
XX
SY
KW Graf
XX
KW Graf
XX
CS Mus
XX
CS Mus
XX
CDS TRELL; tumour necrosis factor related ligand; tnf; treatment; cancer; autoimmune disease; immune system; stimulation; suppression; ds.

graft rejection;

Mus musculus

Location/Qualifiers 2..679

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07-AUG-1996;
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New Tumor Necrosis Factor useful for diagnosis and t

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                                          The TNF-related endothelium proliferative agent (TREPA), or its cativators or agonists, are used to treat a deficit of TREPA, e.g. to promote wound healing or tissue grafting, by promoting vascularisation, calso to induce apoptosis for treating cancer and eliminating autoreactive T cells, as an adjunct to cancer chemotherapy or antiviral treatment. CC TREPA peptides can also be used to target cytotoxic agents or for cafinity isolation of the corresponding receptor, the nucleic acid for which can be used to transform tumour cells to render them more cc responsive to TREPA and to screen for TREPA mimics. Ribozymes, antisense RNA, antibodies or peptides, are used to treat TREPA-associated diseases, e.g. tumours and metastases (by inhibiting conditions involving abnormal stimulation of epithelial cells (e.g. catherosclerosis), for birth control (inhibiting ovulation and placental cc formation) or other angiogenic conditions (e.g. ulcers).
Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Detecting nucleic acid encoding TREPA - useful treatment of autoimmune disease, tumours and in
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P-PSDB; AAW29745.
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sue grafting; vascularisation; apoptosis; autoimmune; birth control.
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/product= "TREPA"
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DB:
                                                                                                                                                                              Human;
TREPA;
                                                                                                                                                   grafting;
                                                                                                                                                                                                                                                                                    04-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                         AAD04350 standard;
                                                                                                             Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        436 TACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTGTACTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               102 ValAspGlyThrValSerGlyTrpGluGluThrLy8IleAsnSerSerSerProLeuArg
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   196 CAGGACCCGTCGGAACTGAATCCCCAGACAGAAGAAAGCCAGGATCCTGCGCCTTTCCTG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         PheGlnValHis 225
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                                                                                                                                                                                                                                          TREPA
                                                                                                                                                                         tumour necrosis factor; TNF;
TNF related endothelium proli
                                                                                                                                                     F related endothelium vulnerary; ss.
                                                                                                                                                                                                                                          (TNF related endothelium
                                                                                                                                                                                                                                                                                    (first entry)
  /product-
                                            Location/Qualifiers
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  "Human TREPA
                                                                                                                                                                       TNF; angiogenesis; wound healing; proliferative agent; tumour; metastasis;
                                                                                                                                                                                                                                     proliferative agent) cDNA.
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Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                         Alignment Scores: Pred. No.:
                                                                                                                              The present invention relates to extracellular signal molecules, particularly members of tumour necrosis factor (TNF) family molecules designated as TREPA (TNF related endothelium proliferative agent). Soluble biologically active TREPA are used to treat TREPA-associated diseases, tumours or metastases. TREPA is used for inducing angiogenesis in human for promoting wound healing and for vascularising grafted tissue for successful grafting and to promote tissue grafts. The present sequence is a cDNA clone ID #690050 encoding human TREPA.
                                                                                                                                                                                                                                                                                            Inducing angiogenesis in mammal at desired sites for promoting wound healing, by administering soluble fragment of extracellular domain of tumor necrosis factor related endothelium proliferative agent protein
                                                                                                         Sequence 1236 BP;
                                                                                                                                                                                                                                                                                                                                                                YPI;
                                                                                                                                                                                                                                                                                                                                                                                          Wiley
                                                                                                                                                                                                                                                                                                                                                                                                                                              12-FEB-1997;
10-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-JUN-1998;
                                                                                                                                                                                                                                                       Example 2;
                                                                                                                                                                                                                                                                                                                                                  P-PSDB;
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DB; AAE00891.
                                                                                                                                                                                                                                                       Column 73-74; 53pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                    LAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                              97US-0798692
98US-0021706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-0105343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    proliferative agent)"
7.98e-84
1020.00
92.86%
88.84%
87.78%
                                                                                                         225 A; 416 C;
                                                                                                         358 G; 237
            Conservative: Mismatches: Indels:
                                                     Length:
Matches:
                                                                                                          T; 0 other;
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US-09-245-198A-2 (1-225) x AAD04350 (1-1236)

Qy	2 LeuSerLeuGlyLeuAlaLeuAlaCysLeuGlyLeuLeuLeuValValValSerLeuGly 21	
В	76 CTGGGCCTGGGCGTGGCCTGCCTCGGCCTCCTGCTGGCCGTCGT	
Qy	22 SerTrpAlaThrLeuSerAlaGlnGluProSerGlnGluGluLeuThrAlaGluAspArg 41	
Db	136 AGCCGGGCATCGCTGTCCGCCCAGGAGCCTGCCCAGGAGGAGCTGGTGGCAGAGGAGGAC 195	
Qy	valval	
Ф	196 CAGGACCCGTCGGAACTGAATCCCCAGACAGAAGAAAGCCAGGATCCTGCGCCTTTCCTG 255	
Qy	62 GluGlnLeuValArgProArgArgSerAlaProLysGlyArgLysAlaArgProArgArg 81	
Дb	256 AACCGACTAGTTCGGCCTCGAAGAAGTGCACCTAAAGGCCGGAAAACACGGGCTCGAAGA 315	
Qy	82 AlaIleAlaAlaHisTyrGluValHisProArgProGlyGlnAspGlyAlaGlnAlaGly 101	
DЪ	316 GCGATCGCAGCCCATTATGAAGTTCATCCACGACCTGGACAGGACGGAAGGCGCAGGCAG	
Qy	102 ValAspGlyThrValSerGlyTrpGluGluThrLysIleAsnSerSerSerFroLeuArg 121	
Ф	376 GTGGACGGGACAGTGACTGGCTGGGAGGAAGCCAGAATCAACAGCTCCAGCCCCTCTGCGC 435	
Qy	122 TyrAspArgGlnIleGlyGluPheThrValIleArgAlaGlyLeuTyrTyrLeuTyrCys 141	
뮹	436 TACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACCTAC	

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RESULT 5
AAA49717
ID AAA4
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21-APR-1999;
28-APR-1999;
14-MAY-1999;
Novel composition to inhibit neoplastic cell growth or for treating tumor in mammal comprises polypeptides PRO179, PRO207, PRO320, PRO219, PRO221, PRO328, PRO301, PRO526, PRO362, PRO356, PRO509 or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRO207; human; antitumour; tumour; therapy; cytostatic; breast cancer; ovarian cancer; renal cancer; colorectal cancer; uterine cancer; prostate cancer; lung cancer; bladder cancer; central nervous system cancer; melanoma; leukaemia; neoplasm; ss.
                                                                       WPI; 2000-442668/38.
P-PSDB; AAY95338.
                                                                                                                         Ashkenazi AJ, Goddard
Napier MA, Pitti RM,
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99WO-US05028.
99US-0130232.
99US-0131445.
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99WO-US21547.
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58..177
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178..804
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d WI;
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The present sequence is that of cDNA clone DNA30879-1152

(ATCC 209358) encoding human PRO207 (see AAY95338), which shows homology to several members of the tumour necrosis factor family, especially human lymphotoxin (23.4%). The cDNA was identified in a foetal kidney cDNA library following identification of an expressed sequence tag with homology to human Apo-2 ligand. A claimed method for inhibiting the growth of a tumour cell comprises exposing the tumor cell to PRO179, PRO207, PRO320, PRO219, PRO221, PRO224, PRO328, PRO301, PRO526, PRO362, PRO320, PRO219, PRO221, PRO224, PRO328, PRO301, PRO526, PRO362, PRO350, PRO219 or PRO866 (see CANY95337-49), their agonists or chimeric polypeptides incorporating them. The tumour is especially a cancer selected from breast, ovarian, renal, colorectal, uterine, prostate, lung, bladder and central nervous system cancer, melanoma and leukaemia. Nucleic acids encoding PRO179 etc. are used in the recombinant production of the antitumour polypeptides.
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Sequence 1353 BP; 257 A; 443 C; 389 G; 264 T; 0 other

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16	Mismatches:	88.84%	Best Local Similarity:
9	Conservative:	92.86%	Percent Similarity:
199	Matches:	1020.00	Score:
1353	Length:	8.95e-84	Pred. No.:
			Alignment Scores:

US-09-245-198A-2 (1-225) x AAA49717 (1-1353)

221	202 IleArgThrLeuProTrpAlaHisLeuLysAlaAlaProPheLeuThrTyrPheGlyLeu	Qy
732	673 CAGCTCCGCCTCTGCCAGGTGTCTGGGCTGTTGGCCCTGCGGCCAGGGTCCTCCCTGCGG	DЬ
201	ProLeuArgProGlySerSerLeuArg	Qy
672		Db
181	162 ValleuAlaLeuArgCysLeuGluGheSerAlaThrAlaAlaSerSerFroGlyPro :	Qy
612		Db
161	142 GlnValHisPheAspGluGlyLysAlaValTyrLeuLysLeuAspLeuLeuValAsnGly	Qy
552	493 TACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTGTACTGT	DЬ
141	hrValIleArgAlaGlyLeuTyrTyrLeuTyrCys	Qy
492		DЬ
121	102 ValAspGlyThrValSerGlyTrpGluGluThrLysIleAsnSerSerSerFoLeuArg	Qy
432		Db
101	82 AlaIleAlaAlaHisTyrGluValHisProArgProGlyGlnAspGlyAlaGlnAlaGly :	Qy
372		DЪ
81	62 GluGlnLeuValArgProArgArgSerAlaProLysGlyArgLysAlaArgProArgArg 8	Qy
312	253 CAGGACCCGTCGGAACTGAATCCCCCAGACAGAAGAAAGCCAGGATCCTGCGCCCTTTCCTG	DЬ
61		Qy
252	193 AGCCGGGCATCGCTGTCCGCCCAGGAGGCCTGCCCAGGAGGAGGAGCTGGTGGCAGAGGAGGAC	DЬ
41		Qy
192		В
21	2 LeuSerLeuGlyLeuAlaLeuAlaCysLeuGlyLeuLeuLeuValValValSerLeuGly	Qy

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The present invention relates to the isolation of novel human PRO polypeptides and the polynucleotide sequences encoding them. The PRO polypeptides, agonists, antagonists or anti-PRO antibodies are useful for treating benign or malignant tumours (e.g. renal, kidney, bladder, breast, etc), leukaemias and lymphoid malignancies, other disorders such as neuronal, glial, astrocytal, hypothalamic, glandular, macrophagal, stromal and blastocoelic disorders, inflammatory, immune and angiogenic disorders. The polynucleotide sequences are also useful in gene therapy. ABK40254-ABK40288 encode for the human PRO polypeptides of the invention.
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17-AUG-1999;
31-AUG-1999;
01-SEP-1999;
15-SEP-1999;
                                                                                                                                                                                                                                                                                                                                   Thirty five nucleic acids encoding PRO polypeptides, useful for treating benign or malignant tumours, leukaemias and lymphoid malignancies, inflammatory, angiogenic and immunologic disorders
                                                                                                                                                                                                                                                                                             Claim 50; Fig
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Watanabe CK,
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11-MAR-1999;
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DB:
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Best Local Similarity:
                           Human cDNA encoding secreted protein #19
                                                                                   ABK34881 standard;
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Human; secreted protein; gene; ss; nutritional supplement; haemophilia; viral infection; bacterial infection; fungal infection; diabetes; asthm

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                                                                                                                                                                                                                                                                                        Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                          and conditions (e.g. asthma). They are also useful for treating neurodegenerative diseases (e.g. Alzheimer's disease, Parkinson's disease, liver fibrosis, coagulation disorders (e.g. hammatory disorders (e.g. Crohn's disease) and tumours. They are also useful for tissue regeneration, for wound healing and in the treatment of burns, incisions and ulcers. The proteins are also useful for regulating haematopoiesis and for treating myeloid or lymphoid cell deficiencies. Sequences ABK34863-ABK35454 represent polynucleotides of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to 592 polynucleotides which have been derived from a variety of human tissue sources and which encode novel secreted proteins. The polynucleotides can be used as probes for the identification and isolation of full length cDNA and genomic DNA. The polynucleotides and proteins can also be used as nutritional supplements. The polynucleotides and proteins can also be used as nutritional supplements. The proteins are useful in the treatment of various immune deficiencies and disorders such as viral infections, bacterial infections, multiple infections, autoimmune disorders (e.g. rheumatoid arthritis, multiple sclerosis, autoimmune thyroiditis and diabetes) and allergic reactions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  autoimmune disorder; rhēumatoid arthritis; multiple sclerosis; tumour; autoimmune thyroiditis; allergic reaction; neurodegenerative disease; Alzheimer's disease; Parkinson's disease; liver fibrosis; cancer; ulcer; coagulation disorder; inflammatory disorder; Crohn's disease; incision; tissue regeneration; wound healing; burn; haematopoiesis; myeloid cell deficiency; lymphoid cell deficiency.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Five hundred and ninety two polynucleotides derived from a variety of human tissue sources which encode secreted proteins, useful for treating immune deficiencies and disorders such as autoimmune disorders
                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1364
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                                                                   18-MAR-1997;
07-AUG-1996;
18-OCT-1996;
                                                                                                                                                                                                                                                TRELL; tumour necrosis factor related ligand; tnf; treatment; cancer; autoimmune disease; immune system; stimulation; suppr
                   Browning JL,
                                      (BIOJ ) BIOGEN INC. (UYGE-) UNIV GENEVA FACULTY MEDICINE
                                                                                                          07-AUG-1997;
                                                                                                                             12-FEB-1998
                                                                                                                                                                                                                                       graft
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96US-0023541.
96US-0028515.
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                    162
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The sequence is that encoding human tumour necrosis factor related
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ValLeuAlaLeuArgCysLeuGluGluPheSerAlaThrAlaAlaSerSerProGlyPro
                                       for antisense therapy.
                                                                                              TACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTGTACTGT
                                                                                                                                                     TyrAspArgGlnIleGlyGluPheThrValIleArgAlaGlyLeuTyrTyrLeuTyrCys 141
                                                                                                                                                                                                             AlaIleAlaAlaHisTyrGluValHisProArgProGlyGlnAspGlyAlaGlnAlaGly
                                                                                                                                                                                                                                                                   AACCGACTAGTTCGGCCTCGCAGAAGTGCACCTAAAGGCCGGAAAACACGGGCTCGAAGA
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                                                                                                                                                                                                                                                                                                                                                                                             SerTrpAlaThrLeuSerAlaGlnGluProSerGlnGluCluLeuThrAlaGluAspArg
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      247 A; 462 C;
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RESULT 9
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                                                                         Percent Similarity:
Best Local Similarity:
Query Match:
US-09-245-198A-2 (1-225)
                                                                                                                                                          Score:
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                                                                                                                                                                                                                                                                                             The present sequence encodes a human tumour necrosis factor (TNF) and lymphotoxin homologue designated Apo-3 ligand. Apo-3 ligand has cytostatic activity. Apo-3 ligand can be used to induce apoptosis in mammalian cancer cells, to induce NF-kappaB-dependent transcription to induce JNK/SAPK-dependent responses in mammalian cells.
                                                                                                                                                                                  No . .
                                                                                                                                                                                                                                                           Sequence 1421 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 18; Fig 1; 74pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New human Apo-3 ligand (a tumour necrosis factor) homologue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ashkenazi AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-DEC-1997;
10-OCT-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; tumour necrosis factor; Apo-3 ligand; lymphotoxin; apoptosis;
NF-KappaB-dependent transcription; JNK/SAPK-dependent response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-JUL-1999
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/product= "Apo-3 ligand"
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                                                                                                        TWEAK extracellular domain; tumour necrosis factor; TNF; angiogenesis; occular neovascularisation; diabetic retinopathy; neovascular glaucoma; retinoblastoma; retinopathy of prematurity; retrolental fibroplasia; rubeosis; uveitis; macular degeneration; arthritis; rheumatism; ds; corneal graft neovascularisation; psoriasis; metastatic condition; malignant tumour; sarcoma; carcinoma; benign tumour; haemophilic joint; preneoplastic condition; myocardial angiogenesis; wound granulation; scleroderma; vascular adhesion; telangiectasia; ischaemia; human; atherosclerotic plaque neovascularisation; coronary atherosclerosis; peripheral atherosclerosis; pDC409-LZ-TWEAK; TWEAK receptor; TWEAKR;
                                                                                                                                                                                                                                                                                                                                                                          Expression vector pDC409-LZ-TWEAK fusion protein-encoding DNA.
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Homo sapiens

δã 뮹 δÃ

GluAspArgArgGluProProGluLeuAsnProGlnThrGluGluSerGlnAspValVal

369 58 309 38

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310 39

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Best Local Similarity:
Query Match:
US-09-245-198A-2 (1-225)
                                                                                Percent Similarity:
                                                                                                               Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                         The sequence represents a DNA from the expression vector

pDC409-LZ-TWRAK, which encodes a fusion protein comprising a growth

commone leader, a leucine zipper multimerisation domain, and the

extracellular domain of human TWEAK. The fusion protein was used in

the isolation of human TWEAK receptor (TWEAKR)-expressing clones

from a COS cell human CDNA library. The TWEAKR protein is a

member of the tumour necrosis factor (TWF) family and induces

angiogenesis. TWEAKR may therefore be used to screen for and develop

TWEAKR agonists and antagonists of human disease. The disorders

mediated by angiogenesis include ocular disorders characterised by ocular

neovascularisation such as diabetic retinopathy, neovascular glaucoma,

retinoblastoma, retinopathy of prematurity, retrolental fibroplasia,

rubcosis, weitis, macular degeneration and corneal graft

neovascularisation, and inflammatory diseases include malignant and

retrolents and psoriasis. Other treatable diseases include malignant and
                                                                                                                                                                                            metastatic conditions such as sarcomas and carcinomas, benign tumours preneoplastic conditions, myocardial angiogenesis, haemophilic joints, scleroderma, vascular adhesions, atherosclerotic plaque neovascularisation, telangiectasia, wound granulation, coronary atherosclerosis, peripheral atherosclerosis and ischaemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wiley
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Modulating angiogenesis in a mammal for treating diseases mediated by angiogenesis, e.g. solid tumours and vascular deficiencies of cardiac peripheral tissue, by administering antagonist or agonist of TWEAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-417975/44.
P-PSDB; AAU03499.
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10-MAY-2000; 2000US-0203347
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                                                                                                                                                                Sequence
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/product=
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93.24%
88.89%
81.84%
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domain, and human TWEAK extracellular
domain"
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Indels:
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Conservative:
                              Gaps:
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AC ANX23
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DT 18-JU
XX Tumou
KW Tumou
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XX APO7
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WPI; 1999-205191/17.
P-PSDB; AAW93590.
                            Chaudhary PM,
                                                                     05-SEP-1997;
                                                (UNIW ) UNIV WASHINGTON
                                                                                         04-SEP-1998;
                                                                                                              11-MAR-1999
                                                                                                                                                                                                                             Tumour necrosis factor receptor; signal transducer molecule; TNF; APO4; developmental abnormality; gestational abnormalitity; prostate cancer; APO6; APO6; APO6; TNRL-1; TNRL-3; diagnosis; treatment; therapy; disease; cytoplasmic domain; immunogen; antibody preparation; breast carcinoma;
                                                                                                                                 WO9911791-A2
                                                                                                                                                                                                                          apoptosis; human; ss.
                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                        Human TNRL3
                                                                                                                                                                                                                                                                                                           18-JUN-1999
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ProLeuArgTyrAspArgGlnIleGlyGluPheThrValIleArgAlaGlyLeuTyrTyr 138
                                                                                                                                                                                                                                                                                                         (first entry)
                                                                    97US-0924634
                                                                                        98WO-US18393
                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                    /product- "TNRL3"
                                                                                                                                                              /*tag= a
                                                                                                                                                                                                                                                                                                                                                DNA; 1030
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This invention describes isolated Tumor Necrosis Factor (TNF) family CR receptor polypeptides: APO4, APO6, APO8 and APO9 or their active fragments, and isolated TNF related ligands I and 3 (TNRLI and TNRL3) or their active fragments. APO4 is useful for diagnosing prostate cancer CR by determining levels of APO4 in an individual. Prostate cancer CR by determining levels of APO4 in an individual Prostate cancer CR by determining levels of APO4 in an individual Prostate cancer CR cancer CR prostate dusing APO4 selective binding agents linked to a therapeutic Drive CR prostate on the call surface. The binding is preferably performed in CR vivo. APO4 polypeptides/active fragment which is extracellular, or CR expressed on the cell surface. The binding is preferably performed in CR vivo. APO4 polypeptides/active fragments are also useful for screening CR for agonists and antagonists by binding and observing the changer in APO4 activity. Effective pharmacological agents useful in diagnosis or CR treatment of disease are also identified using APO4 polypeptides/active fragments and APO4 signal transducer molecules that specifically interact CR with a cytoplasmic domain of APO4 and detecting a change in level of APO4 activity. The method is performed in vivo or in vitro. APO polypeptides are all useful as immunogens for preparing antibodies. APO4 is also carbon and indinced anontres; and indinced anontres; and common breast carcinoma cell line
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example VII; Fig 13A; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New Tumor Necrosis Factor family receptor polypeptides and ligands - useful for diagnosis and treatment of prostate cancer and developmental or gestational abnormalities
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Sequence 1030 BP; 223 A; 317 C; 279 G; 211 T; 0 other;

MCF-7, and induced apoptosis.

Qy 18 ValSerLeuGl	US-09-245-198A-2 (1-225) x AAX23424 (1-1030)	Pred. No.: Score: Percent Similarity: Best Local Similarity: Query Match: DB:
ySerTrpAlaThrL	25) x AAX23424	1.26e-77 951.00 92.79% : 88.94% 81.84% 20
euSerAlaGlnGluPro	(1-1030)	Length: Matches: Conservative: Mismatches: Indels: Gaps:
18 ValSerLeuGlySerTrpAlaThrLeuSerAlaGlnGluProSerGlnGluGluLeuThr		1030 185 15 0

08-09	US-U9-245-198A-2 (1-225) x AAX23424 (1-1030)	
Qy	18 ValSerLeuGlySerTrpAlaThrLeuSerAlaGlnGluProSerGlnGluGluLeuThr 37	
Db	1 GTCAGTTTGGGGAGCCGGGCATCGCTGTCCGCCCAGGAGCCTGCCCAGGAGGAGCTGGTG 60	
Qy	38 AlaGluAspArgArgGluProProGluLeuAsnProGlnThrGluGluSerGlnAspVal 57	
Db	61 GCAGAGGACCAGGACCCGTCGGAACTGAATCCCCAGACAGA	0
. Qy	58 ValProPheLeuGluGlnLeuValArgProArgArgSerAlaProLysGlyArgLysAla 77	
ДЬ	121 GCGCCTTTCCTGAACCGACTAGTTCGGCCTCGCAGAAGTGCACCTAAAGGCCGGAAAAACA 180	J
Qy	78 ArgProArgArgAlaIleAlaAlaHisTyrGluValHisProArgProGlyGlnAspGly 97	
뫄	181 CGGGCTCGAAGAGCGATCGCAGCCCATTATGAAGTTCATCCACGACCTGGACAGGACGGA 240	_
Qy	98 AlaGlnAlaGlyValAspGlyThrValSerGlyTrpGluGluThrLysIleAsnSerSer 117	7
рь	241 GCGCAGGCAGGTGTGGGACGGGACAGTGAGTGGCTGGGAGGGA	J
Qy	118 SerProLeuArgTyrAspArgGlnIleGlyGluPheThrValIleArgAlaGlyLeuTyr 137	7
Дb	301 AGCCCTCTGCGCTACTACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTAC 360	Ŭ
Qy	138 TyrLeuTyrCysGlnValHisPheAspGluGlyLysAlaValTyrLeuLysLeuAspLeu 157	•
Вρ	361 TACCTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTG 420	•
Qy	158 LeuValAsnGlyValLeuAlaLeuArgCysLeuGluGluPheSerAlaThrAlaAlaSer 177	•
Ъ	421 CTGGTGGATGGTGTGCTGGCCTGCGCTGCCTGGAGGAATTCTCAGCCACTGCGGCCAGT 480	-

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1680
                                                                              WPI; 200
P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      farm animal insect; epithelial morphogenesis; celi-matrix adhesion; x-linked anhidrotic (hypohidrotic) ectodermal dysplasia; x-linked anhidrotic (hypohidrotic) ectodermal dysplasia-like disorder; sparse hair; sweat gland aberration; endotoxic shock; inflammation; haemorrhagic necrosis of tumour; cytotoxicity; TNFv2;
                                    New Drosophila tumour necrosis factor molecule, useful in con agriculturally important pests, e.g. comprises modifying the feeding or reproduction of crop-damaging insects or insects or
                                                                                                                                                                                                                                                                                                                                   mat_peptide
          Claim
                                                                                                           Carroll PM,
                                                                                                                                                   (RAMA/)
                                                                                                                                                                                                    21-MAR-2000; 2000US-190816P
                                                                                                                                                                                                                       20-MAR-2001; 2001US-0813329
                                                                                                                                                                                                                                           31-JAN-2002.
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                                                                                                                                                                                                                                                                                                      misc_difference
                                                                                                                                                                                                                                                                                                                                                                                              sig_peptide
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                                                                                                                                                                       (CHEN/
                                                                                                                               BOWE/)
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                                                                              2002-195121/25.
DB; AAU77718.
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         <u>ب</u>
                                                                                                                                                 CHEN J.

RAMANATHAN C

XIAO H.
                                                                                                                              BOWEN M A.
                                                                                                                                          GUAN B.
         Fig
                                                                                                           Chen J,
         3A-C;
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                                                                                                                                                                                                                                                                                                                                                                                                                                               insulin resistance;
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634..1863
                                                                                                                                                                                                                                                                                                      /label= mature_TNFv1 634..1860
                                                                                                                                                                                                                                                                                                                                  /product= "TNFv1"
/note= "Tumour necrosis
790..1860
                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
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                                                                                                           Ramanathan
                                                                                                                                                                                                                                                                                  "Specifically claimed
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         English
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Best Local Similarity:
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                         uLysAlaAlaProPheLeuThrTyrPheGlyLeuPheGlnVal
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GCGGGAGGGAAACAACCGAAGCTACTTTGGCATCTTCAAGGTG
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                                                                                                                                        -ACGGTGCCCACCAACATGCCACATAAGGTGCACACCTGCCACACGAGTGGTCTGATCCA 175;
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ABK11679;

ABK11679 standard; DNA; 1221 BP

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The invention describes an isolated tumour necrosis factor polypeptide (TNF). The polypeptide and polynucleotide are useful in controlling agriculturally important pests, particularly by modifying the growth, feeding and/or reproduction of crop-damaging insects or insects of farm animals. The polypeptide and polynucleotide are useful for modulating epithelial morphogenesis, cell-matrix adhesion in files and mammals. Thus the polypeptide and polynucleotide may be useful for treating, ameliorating or preventing x-linked anhidrotic (hypohidrotic) ectodermal dysplasia and x-linked anhidrotic (hypohidrotic) ectodermal dysplasia-like disorders, e.g. sparse hair, abnormal or missing teeth or sweat gland aberrations in animals (e.g. insects and potentially humans),
                  endotoxic shock, inflammation, haemorrhagic necrosis of tumours, cytotoxicity and obesity-linked insulin resistance, all of which involve TNF molecules. This sequence encodes the drosophila melanogaster tumour necrosis factor variant 1(TNFv1) protein, described in the invention.
                                                                                                                                                                                                                                                                                                  New Drosophila tumour necrosis factor molecule, useful in congriculturally important pests, e.g. comprises modifying the feeding or reproduction of crop-damaging insects or insects animals
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                                                                                                                                                                                                                                                                 Claim 2; Fig 2A-B; 119pp; English
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                                                            Drosophila melanogaster
                                                                                     pharmaceutical;
                                                                                                   Drosophila;
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The segmences (ABL75737-ABL37577).
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                                                                            This cDNA encodes a murine RANKL, a ligand for the RANK (receptor activator of necrosis factor-kappab (NF-RB)) polypeptide. RANK is a member of the tumour necrosis factor (TNF) family. A soluble RANK comember of the tumour necrosis factor (TNF) family. A soluble RANK is a member of the tumour necrosis factor (TNF) family. A soluble RANK is an expressing membrane-associated RANK with a soluble RANK which binds to RANK ligand (RANKL). RANKL polypeptides can activate RANK and can be used to induce maturation of dendritic cells and enhance their allo-stimulatory capacity, thereby augmenting an immune response. The soluble RANK polypeptide composition may also be used for regulating an immune or inflammatory response. Inhibition of NF-kB by RANK antagonists may be useful in ameliorating negative effects of an inflammatory response that result from triggering of RANK, e.g. in treating toxic shock or sepsis, graft-versus-host reactions, or acute inflammatory reactions. They can also be used in adjunct therapy for disease characterised by neoplastic cells that express RANK. RANKL polypeptides can also be used to identify inhibitors of RANK and thus inhibitors of monthe negative effects of chemotherapy or the presence of high levels of the presence of high levels.
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immune response; inflammatory response; toxic shock; sepsis;
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Best Local Similarity:
Query Match:
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Pred. No.:
825 CTGCTGGATCCGGATCAAGATGCGACGTACTTTGGGGGCTTTCAAAGTT 872
                                                               765 GGGGGATTTTTCAAGCTCCGAGCTGGTGAAGAAATTAGCATTCAGGTGTCCAACCCTTCC 824
                                                                                                                                                                                                                                                                 Sequence 1630 BP;
                                                                                                         189
                                                                                                                                          705
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                                                                                                                                                               171 PheSerAlaThrAlaAlaSerSerProGlyProGlnLeuArgLeu-----CysGlnVal 188
                                                                                                                                                                                                                                 155 LeuAspLeuLeuVal------AsnGlyValLeuAlaLeuArgCysLeuGluGlu 170
                                                                                                                                                                                                                                                                                                                                                                                                                                    105 ThrValSerGlyTrpGluGlu------ThrLysIleAsnSerSerSerProLeu 120
                                                                                                                                                                                                                                                                                                                                                                                                        429 GCACACCTCACCATCAATGCTGCCAGCATCCCATCGGGTTCCCCAT-----AAAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         369 ATGATGGAAGGCTCATGGTTGGATGTGGCCCAGCGAGGCCAAGCCTGAGGCCCAGCCATTT 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   309
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                                                                                    SerGlyLeuLeuProLeuArgProGlySerSerLeuArgIleArgThrLeuProTrpAla 208
                                                                                                                               GGAGGGAGCACGAAAAACTGGTCGGGCAATTCTGAATTCCACTTTTATTCCATAAATGTT 764
                                                                                                                                                                                                  CTGATGGTGTATGTCGTTAAAACCAGCATCAAAATCCCAAGTTCTCATAACCTGATGAAA 704
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGGAGAGTGAAGACACACTACCTGACTCCTGCAGGAGGATGAAACAAGCCTTTCAGGGG 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TrpAlaThrLeuSerAlaGln---GluProSerGlnGluGluLeuThrAlaGluAspArg 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCCATGTTCCTGGGCCTCCTGGGGCTGGGACTGGGCCAGGTGGTCTGCAGCATCGCTCTG 137
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Search completed: May 8, 2003, 03:42:39 Job time: 171.65 secs

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-MODEL-frame+_p2n.model -DEV=xlp
-Q=/cgn2_1/USPTO_spool/US09245198/runat_06052003_170239_9615/app_query.fasta_1.846
-Q=/cgn2ahl -OFWT-fastap -SUFFIX-rige -MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-DM-GenEmbl -OFWT-fastap -SUFFIX-rige -MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi -LIST=45
-DCCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE=LOCAL
-OUTFMT=pco -NORM-ext -HEARSIZE=500 -MILLEN-0 -MAXLEN-200000000
-USER-US09245198_@CGN_1_1_3073_@runat_06052003_170239_9615 -NCPU=6 -ICPU=3
-NO_XMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -DSSPLOCK=100 -LONGLOG
-DEV_TIMEDUT=120 -MARM_TIMEDUT=30 -THREADS=1 -XGAPOF=10 -XGAPEXT=0.5 -FGAPOP=6
-DEV_TIMEDUT=10 -VGAPEXT=0.5 -DELOP=6 -DELEXT=7
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-MODEL=frame+_p2n.model .
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
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Copyright (c) 1993 - 2003 Compugen Ltd.
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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TITLE
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                                      ArgAlaIleAlaAlaHisTyrGluValHisProArgProGlyGlnAspGlyAlaGlnAla
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                                                                          TTGGAACAACTAGTCCGGCCTCGAAGAAGTGCTCCTAAAGGCCGGAAGGCGCGGCCTCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chicheportiche, Y., Bixler, S., Direct Submission Submitted (14-0CT-1997) Cell E Cambridge, MA 02142, USA Location/Qualifiers
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Chicheportiche, Y., Bourdon, P.R., Xu, H., Hsu, Y.M., S
Hession, C., Garcia, I. and Browning, J.L.
TWEAK, a new secreted ligand in the tumor necrosis
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Mus musculus TWEAK mRN:
AF030100
AF030100.1 GI:2707220
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iol. Chem. 272 (51), 32401-32410 (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                      /protein_id="aac53517.1"
/db_xref="GI:2707221"
/db_xref="GI:2707221"
/db_xref="GI:2707221"
/translation="YLEGGLALACLGLLLYVVSLGSWATLSAQEPSQEELTAEDRREP
PELNPOTEESQDVVPFLEGGLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGV
DGTVSGWEETKINSSSPLRYDRQIGEFTVIRAGLYYLKCQVHFDEGKAYYLKLDLLVN
GYLALRCLEEFSATAASSPGPQLRLCQVSGLLPLRPGSSLRIRTLPWAHLKAAPFLTY
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/db_xref="taxon:10090"
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Sciurognathi; Muridae;
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                                                                                                                                                                                        2 (bases 1 to 1306)
Bourdon,P., Hession,C., Tizard,R. and
Direct Submission
Submitted (14-OCT-1997) Cell Biology,
Cambridge, MA 02142, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                           Chicheportiche, Y., Bourdon, P.R., Xu, H., Hsu, Y.M., (Hession, C., Garcia, I. and Browning, J.L.
TWEAK, a new secreted ligand in the tumor necrosis that weakly induces apoptosis
J. Biol. Chem. 272 (51), 32401-32410 (1997)
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1 (bases 1 to 1306)
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                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
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AF030099
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/translation="MAARRSQRRRGEPGTALLVPLALGLGLALACLGLLLAVVSL
GSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTR
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codon not verified experimentally"
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/db_xref="taxon:9606"
/chromosome="17"
/map="17p13"
                                                                 /codon_start=1
                                                                                                     /tissue_type="tonsil"
18. .767
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YYLYCQYHFDEGKAVYIKIDLIVUGVIALRCLEEFSATAASSIGPQLRLCQVSGLLAL
RPGSSIRITRIPWAHIKAAPFILTYFGLFQVH"
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Patent WO0153486.
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Homo

sapiens

Goddard, A.

Goddard, A.

Euteleostomi;

PRI 04-MAY-1998 cds.

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Best Local Similarity:
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                                                                                                                                                                                                                                                                                                                        122 TyrAspArgGlnIleGlyGluPheThrValIleArgAlaGlyLeuTyrTyrLeuTyrCys
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PheGlnValH1s 225
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                                                                        IleArgThrLeuProTrpAlaHisLeuLysAlaAlaProPheLeuThrTyrPheGlyLeu
                                                                                                                      CAGCTCCGCCTCTGCCAGGTGTCTGGGCCTGTTGGCCCTGCGGCCAGGGTCCTCCCTGCGG
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Ashkenazi,A.J., Goddard,A., Godowski,P.J., Gurney,A.I
Hillan,K.J., Marsters,S.A., Pan,J., Pitti,R.M., Roy,I
Stone,D.M., Watanabe,C.K. and Wood,W.I.
Compositions and methods for the treatment of tumour
Patent: WO 0153486-A 3 26-JUL-2001;
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/db_xref="taxon:9606"
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R.M., Roy,M.A.,
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                               42 ArgGluProProGluLeuAsnProGlnThrGluGluSerGlnAspValValProPheLeu 61
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               CAGGACCCGTCGGAACTGAATCCCCAGACAGAAGAAAGCCAGGATCCTGCGCCTTTCCTG
                                                                                          SerTrpAlaThrLeuSerAlaGlnGluProSerGlnGluGluLeuThrAlaGluAspArg
                                                                           AGCCGGGCATCGCTGTCCGCCCAGGAGCCTGCCCAGGAGGAGCTGGTGGCAGAGGAGGAC
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Homo sapiens Apo3/DR3 ligand
AF055872
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1 (bases 1 to 1368)
Arshers, S.A., Sheridan, J.P., Pitti, R.M., Brush, J., Arshers, S.A.,
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RPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH"
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Apo3/DR3"
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58. .807
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/product="Apo3/DR3 ligand"
/protein_id="AAC39724.1"
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|CAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGGATGGT
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AX180714.1 GI:15132570
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it: WO 0145730-A 1 28-JUN-2001;
EX CORPORATION (US)
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BC019047.1
NIH-MGC Project URL: http://mgc.nci.nih.gov
Contact: MGC help desk
Email: cgapbs-r@mail.nih.gov
                                          Direct Submission
Submitted (07-DEC-2001) Nat.
Gene Collection (MGC), Cancollection (MGC) and Constitute, 31 Center Drive,
                                                                                          Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
1 (bases 1 to 1651)
                                                                                                                                                                                        Homo sapiens, superfamily, r
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                                                                                                                                       Homo sapiens.
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                                          ) National Institutes of Health, Mammalian
Cancer Genomics Office, National Cancer
rive, Room 11A03, Bethesda, MD 20892-2590,
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Indels:
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Best Local Similarity:
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                                                                          AlaIleAlaAlaHisTyrGluValHisProArgProGlyGlnAspGlyAlaGlnAla---
                                                                                                                                                                      GluGlnLeuValArgProArgArgSerAlaProLysGlyArgLysAlaArgProArgArg 81
                                                                                                                                                                                                                                           CAGGACCCGTCGGAACTGAATCCCCAGACAGAAGAAAGCCAGGATCCTGCGCCTTTCCTG
                                                                                                                                                                                                                                                                                                                                                                         SerTrpAlaThrLeuSerAlaGlnGluProSerGlnGluGluLeuThrAlaGluAspArg 41
                                              GCGATCGCAGCCCATTATGAAGTTCATCCACGACCTGGACAGGACGGAGCGCAGGC-AGA 479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: nisc_mgc@nhgri.nih.góv
Shevchenko,Y., Wetherby,K.D., Beckstrom-Sternberg,S.M.,
Benjamin,B., Blakesley,R.W., Bouffard,G.G., Brinkley,C., Brooks,S.,
Benjamin,B., Blakesley,R.W., Bouffard,G.G., Brinkley,C., Brooks,S.,
Dietrich,N.L., Guan,X., Gupta,J., Ho,S.-L., Karlins,E., Legaspi,R.,
Lim,M., Maduro,Q.L., Masiello,C., Mastrian,S.D., McCloskey,J.C.,
McDowell,J., Pearson,R., Snyder,B., Stantripop,S., Thomas,P.J.,
Tiongson,E.E., Touchman,J.W., Tsurgeon,C., Vogt,J.L., Walker,M.A.,
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CDNA Library Preparation: Rubin Laboratory
.cDNA Library Arrayed by: The I. M.A.G.E. Consortium (LLNL)
DNA Sequencing by: National Institutes of Health Intramural
Sequencing Center (NISC),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Series: IRAL Plate: 30 Row: p Column: 5
This clone was selected for full length sequencing because it
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    passed the following selection criteria: matched mRNA g1: 4507596.
Location/Qualifiers
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superfamily, member 12"
/protein_id="AaH19047.1"
/db_xref="GI:17512139"
/translation="MAARRSQRRRGEPGTALLVPLALGIGIALACIGILLAVVSL
GSRASISAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTR
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/db_xref="taxon:9606"
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/tlssue_type="primary B-Cells from Tonsils"
/clone_lib="NHH MGC_48"
/lab_host="DH10B-R"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note-"Vector: pOTB7"
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65.13%
81.37%
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Conservative:
Mismatches:
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TITLE JOURNAL	OKGANISM REFERENCE AUTHORS	ACCESSION VERSION KEYWORDS SOURCE ORGANISM	89	Oy 222 P	Qy 202 I Db 1020 A	Оу 182 G Пр 960 С	ОУ 162 V Db 900 G	Qy 142 G Db 840 C	Qy 122 T Db 780 T	Qy 102 V Db 720 G	Qy 101 Db 660 AG	Db 600 C	Qy 100 -	рь 540 с	Qy 100 -	Db 480 T
Addison, S., Pace, A., Williams, G., Bonnin, D., Brooks, A., Brown, J., Buhay, C., Bunac, C., Burkett, C., Chacko, J., Chen, G., Chen, Z., Cox, C., Davis, C., Delgado, O., Ding, Y., Dugan-Rocha, S., Fernandez, C., Ferraguto, D., Forcum-Tansey, J., Gill, R., Gorrell, J. H., Gunaratne, P., Haller, G., Hernandez, J., Hogues, M., Gorrell, J. H., Gunaratne, P., Haller, G., Hernandez, J., Hogues, M., Gorrell, J. H., Lozado, R.J., Martin, R., Hosak, H., Hou, X., Huber, J., Jackson, L., Jia, Y., Kelly, J., Kovar, C., Liu, J., Liu, W., Loulseged, H., Lozado, R.J., Martin, R., Kovar, C., Liu, J., Liu, W., Loulseged, H., Lozado, R.J., Martin, R., Kovar, C., Liu, J., Liu, W., Loulseged, H., Lozado, R.J., Moris, S., Massey, E., McLeod, M.P., Mei, G., Moore, S., Morgan, M., Morris, S., Neal, D., Nelson, A., Nguyen, R., Nguyen, N., Oguh, M., Parish, B., Perez, L., Reiter, D., Say, J., Shen, H., Vasquez, L., Watlington, S., Williamson, A., Wrensford, G., Zhou, X., Bouck, J., Hodgson, A., Murny, D.M., Rives, M., Scherer, S., Sodergren, E., Welnstock, G., Worley, K. and Gibbs, R. Direct Submission	Aus musculus Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 203083) Metzker,M.L., Lewis,L.R., Hume,J., Edwards,C., Harris,C., Dederich D. Thomas,S. Okwoonu,G. Carlock C. Garner T.	AC069459 AC069459 AC069459 AC069459 AC069459 AC069459 AC069459 AC069459 AC069459 AC069459 AC069459 AC069459 AC069459.23 GI:14547768 MUS mUSCULUS MUS mUSCULUS MUS mUSCULUS MUS mUSCULUS MUS mUSCULUS MUS mUSCULUS		PheGlnValHis 225 TTCCAGGTTCAC 1091	IleArgThrLeuProTrpAlaHisLeuLysAlaAlaProPheLeuThrTyrPheGlyLeu 221 	GlnLeuArgLeuCysGlnValSerGlyLeuLeuProLeuArgProGlySerSerLeuArg 201 	ValLeuAlaLeuArgCysLeuGluGluPheSerAlaThrAlaAlaSerSerProGlyPro 181 	GlnValHisPheAspGluGlyLysAlaValTyrLeuLysLeuAspLeuLeuValAsnGly 161 	TyrAspArgGlnIleGlyGluPheThrValIleArgAlaGlyLeuTyrTyrLeuTyrCys 141 :::	ValAspGlyThrValSerGlyTrpGluGluThrLysIleAsnSerSerSerFroLeuArg 121 	AAGAGAGGACACATCTCCCACCATTACCAGAGGGTCAAAGGAGAGAACAAGAG	AGGGGTGAGGGGTCCATGCAGGGGCCACATCCAAAAAGGGGAGAGGGGAAGTTTCCAGAA 659	100	CCAGCTAGAATGTGCCTGTGTACTGGACATGGTCTGCATGAAAGGCGAGGTGGCTGGTG 599		TGGAGGTTACACAACTTGTCTGAGGCCATGAGATACTAAGTGGTGGAGCCAAGATTTGAA 539

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Best Local Similarity:
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No.:
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(see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html).

* NOTE: This is a 'working draft' sequence. It currently

* consists of 7 contigs. The true order of the pieces

* is not known and their order in this sequence record is

* arbitrary. Gaps between the contigs are represented as

* runs of N, but the exact sizes of the gaps are unknown.

* This record will be updated with the finished sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (31-MAY-2000) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA on Jun 25, 2001 this sequence version replaced gi:12621364.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
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Chemistry: Dye-terminator Big Dye: 52% of reads
Assembly program: Phrap; version 0.990329
Consensus quality: 212648 bases at least Q40
Consensus quality: 218902 bases at least Q30
Consensus quality: 222384 bases at least Q30
Estimated insert size: 210656; sum-of-contigs estimation
Quality coverage: 0x in Q20 bases; sqarose-fp estimation
Quality coverage: 7.2x in Q20 bases; sum-of-contigs estimation
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/db_xref="taxon:10090"
/chromosome="11"
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49293 c 47892 g
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of 6530 bp in length
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RESULT SALGO37 OLLOCUS LOCUS LOCUS DEFINITI ACCESSION KEYWORDS SOURCE ORGANI AUTHOI TITLE JOURNA COMMENT	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
AL603707/c LOCUS DEFINITION ACCESSION VERSION KEYWORDS SOURCE ORGANISM TITLE JOURNAL COMMENT	120 43245 140 43185 141 141 43125 142 43065 43005 166 42945 186 42885
AL603707 Mouse DNA sequence from clone RP23-422L16 on chromosome 11. complete sequence. AL603707 s G1:17017790 AL603707 s G1:17017790 HTG. house mouse. Mus musculus Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (bases 1 to 234182) Pearce, A. Direct Submission Submitted (17-NOV-2001) Wellcome Trust Sanger Institute, Hinxton, Cambridgeshire, CB10 1SA, UK. E-mail enquirles: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk Con Nov 20, 2001 this sequence version replaced g1:16603765. During sequence assembly data is compared from overlapping clones. Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with noily a small overlap as described above. This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one Ml3 subclone; and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em. EMBL; Sw: SWISSPROT; Tr:, TREMEL; Wp:, WORMPEP; Information on the WORMPEP database can be found at http://www.sanger.ac.uk/Projects/C_elegans/wormpep RP23-422L16 is from the RPCI-23 Mouse PAC Library constructed by the group of Pieter de Jong.	LeuArgTyrAspArgGlnIleGlyGluPheThrValIleArgAlaGlyLeuTyrTyrLeu 139

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                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGGTGTCTGGGCTGTTGCCGCTGCGGCCAGGGTCTTCCCTTCGGATCCGCACCCTCCC 66130
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AC016876
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
1 (bases 1 to 177703)
                                                                     Homo sapiens
                                                                                                               ACO16876.5 GI:21313830
HTG; HTGS_PHASE1; HTGS_FULLTOP;
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Homo sapiens clone RP11-186B7,
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/note="Sequence from uni-directional primer reads and dGTP
big dye terminator reads only."
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/chromosome="11"
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SEQUENCING IN PROGRESS ***, 10
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TITLE
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Gardyna, S., Gord, S., Graham, L., Grand-Pierre, N., Hagos, B.,
Horton, L., Hulme, W., Iliev, I., Johnson, R., Jones, C., Kamat, A.,
Karatas, A., Kells, C., Landers, T., Levine, R., Lindblad-Toh, K.,
Liu, G., MacLean, C., Macdonald, P., Major, J., Matthews, C.,
McCarthy, M., Meldrim, J., Meneus, L., Mihova, T., Mlenga, V.,
Murphy, T., Naylor, J., Nguyen, C., Nicol, R., Norbu, C., Norman, C.H.,
O'Connor, T., O'Donnell, P., O'Nell, D., Oliver, J., Peterson, K.,
Phunkhang, P., Pierre, N., Raymond, C., Retta, R., Rise, C., Rogov, P.,
Roman, J., Roy, A., Schauer, S., Schupback, R., Seaman, S., Severy, P.,
Smith, C., Spencer, B., Stange-Thomann, N., Stojanovic, N., Talamas, J.,
Tesfaye, S., Theodore, J., Topham, K., Travers, M., Vassiliev, H.,
Viel, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Birren,B., Linton,L., Nusbaum,C., Lander,E., Allen,N., Anderson,M.,
Baldwin,J., Barna,N., Beckerly,R., Boyuslavkiy,L., Boukhgalter,B.,
Brown,A., Castle,A., Colangelo,M., Collins,S., Collymore,A.,
Cooke,P., DeArellano,K., Dewar,K., Domino,M., Donelan,L., Doyle,M.,
Ferreira,P., FitzHugh,W., Forrest,C., Funke,R., Gage,D.,
Galagan,J., Gardyna,S., Grant,G., Hagos,B., Heaford,A., Horton,L.,
Howland,J.C., Johnson,R., Jones,C., Kann,L., Karatas,A., Klein,J.,
Lehoczky,J., Lieu,C., Locke,K., Macdonald;P., Marquis,N.,
McEwan,P., McGurk,A., McKernan,K., McLaughlin,J., Meldrim,J.,
McEwan,P., McGurk,A., McKernan,C.H., O'Connor,T., O'Donnell,P.,
Peterson,K., Pollara,V., Riley,R., Roy,A., Santos,R., Severy,P.,
Stange-Thomann,N., Stojanovic,N., Subramanian,A., Talamas,J.,
Tesfaye,S., Tirrell,A., Vassiliev,H., Vo,A., Wheeler,J., Wu,X.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (06-AUG-2002) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA On Jun 2, 2002 this sequence version replaced gi:15421989. All repeats were identified using RepeatMasker:

Smit, A.F.A. & Green, P. (1996-1997)
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Birren,B., Nusbbaum,C., Lander,E., Ali,A., Allen,N., Anderson,S., Barna,N., Bastlen,V., Bloom,T., Boguslavkiy,L., Boukhgalter,B., Camarata,J., Chang,J., Chazaro,B., Choepel,Y., Collymore,A., Cook,A., Cooke,P., DeArellano,K., Dewar,K., Diaz,J.S., Dodge,S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens chromosome, clone RP11-186B7
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Submitted (08-DEC-1999) Whitehead Institute/MIT Center for Genome
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  http://ftp.genome.washington.edu/RM/RepeatMasker.html
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                                                                                                                                                                                                                                                      NOTE: This is a 'working draft' sequence. It currently consists of 10 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence.
                                                                                                                                                                                                          as soon as it is available and the accession number will be preserved.
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                                                                                                                                                                                                                                                                                                                                                                                                                       Web site: http://www-seq.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
----- project Information
Center project name: L3849
Center clone name: 186_B_7
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                   58278 58377: gap of 100 bp
58378 65804: contig of 7427 bp in length
65805 65904: gap of 100 bp
65905 79793: contig of 13889 bp in length
79794 79893: gap of 100 bp
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48746 582
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93: gap of
99493: contig
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        37636 TCAGGTGTGGACGGGACAGTGAGTGGCTGGGAGGAAGCCAGAATCAACAGCTCCAGCCCT 37577
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                                                                                                                                     SLeuAspLeuLeuValAsnGlyValLeuAlaLeuArgCysLeuGluGluPheSerAlaTh 174
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTG
                                                                           CTTCCTCACCTACTTCGGACTCTTCCAGGTTCAC
                                                                                                        oPheLeuThrTyrPheGlyLeuPheGlnValHis 225
                                                                                                                                                                                                  TGCGGCGAGTTCCCTCGGGCCCCAGCTCCGCCTCTGCCAGGTGTCTGGTCTGTTGGCCCT 37157
                                                                                                                                                                                                                  rAlaAlaSerSerProGlyProGlnLeuArgLeuCysGlnValSerGlyLeuLeuProLe 194
                                                                                                                                                                                                                                                               GCTGGACTTGCTGGTGGATGGTGTGCTGGCCCTGCGCTGGAGGAATTCTCAGCCAC 37217
                                                                                                                                                                                                                                                                                                                              ACTCGGCCTGTTGTCCCCACCCCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAA
                                                                                                                                                                                                                                                                                                                                             ------GlnValHisPheAspGluGlyLysAlaValTyrLeuLy 154
AC127470 215795 bp
Pan troglodytes clone RP43-145D13,
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111150 125020: contig of 13871 bp in length
125021 125120: gap of 100 bp
125121 145109: contig of 19989 bp in length
145110 145209: gap of 100 bp
145210 165268: contig of 24249 bp in length
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/db_xref="taxon:9666"
/clone="RP11-186B7"
/clone_lib="RPCI-11 Human M
a 45967 c 46568 g 41254 t
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177703: contig of 8145
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Indels:
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VERSION
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Akhter.N., Antonellis, A., Ayele, K., Beckstrom-Sternberg, S.M., Benjamin, B., Blakesley, R.W., Bouffard, G.G., Breen, K., Brinkley, C., Brooks, S., Dietrich, N.L., Granite, S., Guan, X., Gupta, J., Haghighi, P., Hansen, N., Ho, S.-L., Idol, J.R., Karlins, E., Laric, P., Lee-Lin, S.-Q., Legaspi, R., Maduro, Q.L., Maduro, V.B., Marguiles, E. H., Masiello, C., Maskeri, B., Mastrian, S.D., McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R., McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R., Prasad, A., Schueler, M.G., Stantripop, S., Thomas, J.W., Thomas, P.J., Touchman, J.W., Tsurgeon, C., Vogt, J.L., Walker, M.A., Wetherby, K.D., Wiggins, L., Young, A., Zhang, L.-H. and Green, E.D. MISC Comparative Sequencing Initiative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (17-JUL-2002) NIH Intramural Sequencing Center, 8717 Grovemont Circle, Gaithersburg, MD 20877, USA
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AC127470
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                                                                                                                                                                                                                                                                                                                                                                                                                         arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NOTE: This is a 'working draft' sequence. It currently consists of 15 contigs. The true order of the pieces is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Center project name: cms
Center clone name: 145D13
Center clone name: 145D13
Sequencing vector: plasmid; n/a; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Assembly program: Phrap; version 0.990319
Consensus quality: 203929 bases at least 040
Consensus quality: 203929 bases at least 020
Consensus quality: 209181 bases at least Q20
Insert size: 190000; agarose-fp
Insert size: 190000; agarose-fp
Quality coverage: 7.30x in Q20 bases; agarose-fp
Quality coverage: 6.47x in Q20 bases; sum-of-contigs
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39213
39313
49343
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8102
15640
15740
24776
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Contact: nisc_zoo@nhgri.nih.gov
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15639:
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24775:
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lg of 7538 bp in
f unknown length
g of 11514 bp in 1
f unknown length
g of 13464 bp in 1
f unknown length
g of 14902 bp in 1
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g of 9036 bp in 14
f unknown length
g of 5275 bp in 14
f unknown length
g of 8962 bp in 14
                                                                                                                                   unknown length
of 10030 bp in
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Best Local Similarity:
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                                                                                          LeuArgTyrAspArgGlnIleGlyGluPheThrValIleArgAlaGlyLeuTyrTyrLeu 139
                                                   TyrCys-----
                       TACTGTCAGGTAAGCCCCCATCTGGCTGCATGGGTAATGCAGTAAGGGAGTGGCGAAGGGT 199313
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89623. .105537
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/db_xref="taxon:9598"
/clone="RP43-145D13"
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54859 c 53752 g 53513
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166903. .215795
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74621. .89522
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39313. .49342
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105637: contig of 15915 bp in 16
105637: gap of unknown length
121197: contig of 15560 bp in 16
121297: gap of unknown length
138883: contig of 17586 bp in 16
138983: gap of unknown length
166802: contig of 27819 bp in 16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCGGCGAGTTCCCTCGGGCCCCAGCTCCGCCTCTGCCAGGTGTCTGGGCTGTTGGCCCT
                                                                                                                                                                                                                                                                                                                                           Direct Submission
Direct Submission
Submitted (08-AUG-2002) NIH Intramural Sequencing Center,
Submitted (18-AUG-2002) NIH Intramural Sequencing Center,
Grovemont Circle, Gaithersburg, MD 20877, USA
Grovemont Circle, Gaithersburg, MD 20877, USA
Grovemont Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Akhter, N., Antonellis, A., Ayele, K., Beckstrom-Sternberg, S.M., Benjamin, B., Blakesley, R.W., Bouffard, G.G., Breen, K., Brinkley, C., Brooks, S., Dietrich, N.L., Granite, S., Glan, X., Gupta, J., Haghighi, P., Hansen, N., Ho, S.-L., Idol, J.R., Karlins, E., Laric, P., Lee-Lin, S.-Q., Legaspi, R., Maduro, Q.L., Maduro, V.B., Margulies, E.H., Masiello, C., Maskeri, B., Mastrian, S.D., McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R., McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R., Thomas, J.W., Thomas, P.J., Touchman, J.W., Tsurgeon, C., Vogt, J.L., Walker, M.A., Wetherby, K.D., Wiggins, L., Young, A., Zhang, L.-H. and Green, E.D. MISC Comparative Sequencing Initiative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Green, E.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae;
1 (bases 1 to 177555)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sus scrota
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HTG; HTGS_PHASE1; HTGS_DRAFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sus scrofa
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 177555)
                                      Center clone name: 436K21

Sequencing vector: plasmid; n/a; 100% of reads
Sequencing vector: plasmid; n/a; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Assembly program: Phrap; version 0.990319

Consensus quality: 164120 bases at least Q40

Consensus quality: 168085 bases at least Q30

Consensus quality: 170767 bases at least Q20

Topic 160000 170767 bases at least Q20
                                                                                                                                                                                                                                                   Web site: http://www.nisc.nih.gov
Contact: nisc_zoo@nhgri.nih.gov
------- project Information
                                                                                                                                                                                                                                                                                                                        Center: NIH Intramural Sequencing Center code: NISC
                                                                                                                                                                                                                             Center project name: dbg
  Insert size:
Insert size:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GI:22138443
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169000; agarose-fp
176655; sum-of-contigs
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Sus.
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Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                       BASE COUNT
ORIGIN
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Source
US-09-245-198A-2 (1-225) x AC130192 (1-177555)
                                                                                            Score:
                                                                                                         Pred. No.:
                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
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                                                                                                                                                                     41026
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76771
115166
115266
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/note="assembly_fragment"
33820. .45054
                                                                                                                                                                vector_side:right"
| 46997 c 46681 g
                                                                                                                                                                                                                                                                                         vector_side:left"
58825._.76670
                                                                                                                                                                                                   clone_end:SP6
                                                                                                                                                                                                                                /note="assembly_fragment"
115266. .177555
                                                                                                                                                                                                                                                                                                                           clone_end:T7
                                                                                                                                                                                                                                                                                                                                                         45155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Sus scrofa"
/db_xref="taxon:9823"
/clone="RP44-436K21"
/clone_lib="RP44"
                                                                                                                                                                                                                                                                                                                                    /note="assembly_fragment
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3561. .6869
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1. .177555
                                                                                                                                                                                                               note="assembly_fragment"
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76771. .115165
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l3566. .21301
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                               2.13e-30
545.00
50.68%
45.21%
46.90%
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58724: contig of 13570 bp in 16
58824: gap of unknown length
76670: contig of 17846 bp in 16
76770: gap of unknown length
115165: contig of 38395 bp in 16
115265: gap of unknown length
177555: contig of 62290 bp in 16
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contig
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                                          Length:
Matches:
Conservative:
Mismatches:
Indels:
                            Gaps:
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of 12318 bp
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       unknown length of 11235 bp in
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                            132
16
39
105
                                                                                                         177555
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RESULACUS LOCUS DEFIN ACCES VERSI KEYWO SOURC ORG	p 64	D 04	B 성	망 성	B 64	망	Qy	Db .	Q	Db Qy	P 64	P 4	B 3	B 64	Db Qy	DP QA	DP 6A
RESULT 13 AC126925/c LOCUS DEFINITION ACCESSION VERSION KEYWORDS SOURCE ORGANISM REFERENCE	214 114013	194 114073	174 114133	154 114193	142 114253	114313	141	114373	141	137 114433	117 114493	97 114553	77 114565	57 114604	37 114649	22 11 47 00	8 114760
AC126925 Canis familiaris clone RP81-332E11, WORKING DRAFT SEQUENCE, 15 unordered pieces. AC126925 AC126925.1 GI:21724102 HTG; HTGS_PHASE1; HTGS_DRAFT. dog. Canis familiaris Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis. 1 (bases 1 to 161428)	OPheLeuThrTyrPheGlyLeuPheGlnValHis 225 	UARGPTOGlySerSerLeuArgIleArgThrLeuProTrpAlaHisLeuLysAlaAlaPr 214 	rAlaAlaSerSerProGlyProGlnLeuArgLeuCysGlnValSerGlyLeuLeuProLe 194 	SLEUASPLEULEUVALASNGLYVAILEUAIALEUATGCYSLEUGIUGIUPHESETAIATh 174 GCTGGACTTGCTGGACGACGACGCTGGCCCTGCGCTGCG		GCTGGGAAGGATGCCGGGCCTCTTGGGAAACCTGAGACAGGGTCAAGGGCAAGCAGAGGC 114254	141	i	141	TyrTyrLeuTyrCys	AspArgGlnIleGlyGluPheThrValIleArgAlaGlyLeu 13 :::	GlyAlaGlnAlaGlyValAspClyThrValSerGlyTrpGluGluThrLysIleAsnSer 116 	AlaArgProArgArgAlaIleAlaAlaHisTyrGluValHisProArgProGlyGlnAsp 96 :::	ValValProPheLeuGluGlnLeuValArgProArgArgSerAlaProLysGlyArgLys 76 CCTGGGGATTATTAGAAAGCTCTGTAAAGGGACTTTCC 114566	ThralaGluAspArgArgGluProProGluLeuAsnProGlnThrGluGluSerGlnAsp 56	SerTrpAlaThrLeuSerAlaGlnGluProSerGlnGluGluLeu 36	LeuAlaCysLeuGlyLéuLeuValValValSerLeuGly 21 ::: :::: TTGCTCTGTATCTTTCTGGTCATGTATGTGTGGATTTTTTCACCTCACTTTCTATCACA 114701

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COMMENT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (10-JUL-2002) NIH Intramural Sequencing Center, Grovemont Circle, Gaithersburg, MD 20877, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Thomas, P.J., Touchman, J.W., Tsurgeon, C., Vogt, J.L., Walker, M.A., Wetherby, K.D., Wiggins, L., Young, A., Zhang, L.-H. and Green, E.D.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NOTE: This is a 'working draft' sequence. It currently consists of 15 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequencing vector: plasmid: n/a; 100% of read chemistry: Dye-terminator Big Dye; 100% of read chemistry: Dye-terminator Big Dye; 100% of read seembly program: Phrap; version 0.990319 consensus quality: 148712 bases at least Q40 Consensus quality: 151471 bases at least Q30 Consensus quality: 153125 bases at least Q20 reserved; 153125 bases at least Q20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Insert size: 152000; agarose-fp
Insert size: 160028; sum-of-contigs
Quality coverage: 5.36x in Q20 bases;
Quality coverage: 5.10x in Q20 bases;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Comparative Sequencing Initiative
                                                                                                                                                                                         4.0882
49784
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Center: NIH Intramural Sequencing Center Center code: NISC
                                                                                                                                                                                                                                                                                                                                    12362
19032
19132
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
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NOTE: This is a 'working draft' sequence. It currently consists of 32 contigs. The true order of the pleces is not known and their order in this sequence record is arbitrary. Caps between the contigs are represented as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
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be preserved.
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Chemistry: Dye-terminator Big Dye: 100% of re
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Akhter N., Antonellis, A., Ayele, K., Beckstrom-Sternberg, S.M., Benjamin, B., Blakesley, R.W., Bouffard, G.G., Breen, K., Brinkley, C., Berooks, S., Dietrich, N.L., Granite, S., Guan, X.; Gupta, J., Hagshighi, P., Hansen, N., Ho, S.-L., Idol, J.R., Karlins, E., Laric, P., Lee-Lin, S.-Q., Legaspi, R., Maduro, Q.L., Maduro, V.B., Margulles, E.H., Masiello, C., Maskeri, B., Mastrian, S.D., McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R., Portnoy, M.E., Prasad, A., Schueler, M.G., Stantripop, S., Thomas, J.W., Thomas, P.J., Touchman, J.W., Tsurgeon, C., Vogt, J.L., Walker, M.A., Wetherby, K.D., Wiggins, L., Young, A., Zhang, L.-H. and Green, E.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (10-JUL-2002) NIH Intramural Sequencing Center, Grovemont Circle, Gaithersburg, MD 20877, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Green, E.D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NISC Comparative Sequencing Initiative Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mammalia; Eutheria; Co
Bovidae; Bovinae; Bos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AC126921.1 GI:21724098
HTG; HTGS_PHASE1; HTGS_DRAFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               pieces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AC126921
                                                runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number wil be preserved.
                                                                                                                                                          NOTE: This is a 'working draft' sequence. It currently consists of 12 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as
                                                                                                                                                                                                                                                                                      Sequencing vector: plasmid; n/a; 100% of reads Chemistry: Dye-terminator Big Dye; 100% of reads Assembly program: Phrap; version 0.990319
Consensus quality: 146066 bases at least Q40
Consensus quality: 147748 bases at least Q30
Consensus quality: 148824 bases at least Q30
Consensus quality: 148824 bases at least Q20
Insert size: 151000; agarose-fp
Insert size: 152453; sum-of-contigs
Quality coverage: 8.80x in Q20 bases; agarose-fp
Quality coverage: 8.72x in Q20 bases; sum-of-contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 153553)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Center project name: ddi
Center clone name: 045D24
----- Summary Statistics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Web site: http://www.nisc.nih.gov
Contact: nisc_zoo@nhgri.nih.gov
Troject Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Center: NIH Intramural Sequencing Center code: NISC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  clone RP42-45D24, WORKING DRAFT SEQUENCE,
2312: contig of 2312 bp in length 2412: gap of unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genome Center
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           153553 bp
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                                                                                                                                                                                                                                                                                            sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pecora;
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                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                 US-09-245-198A-2 (1-225) x AC126921 (1-153553)
                                                                                                                                                                                                                             BASE COUNT
ORIGIN
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Pred. No.:
                           26848 CCTGTCTCTGAACACCCCACATTCAGGTGTGGACGGGACGGTGAGTGGCTGGGAGGAGGACGCC 26907
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113 LysIleAsnSerSerProLeuArgTyrAspArgGlnIleGlyGluPheThrValIle 132
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37393 c 36616 g
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.53553: contig of 42025 bp
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ig of 15520 bp in length
of unknown length
lig of 17079 bp in length
of unknown length
of unknown length
ig of 16990 bp in length
of unknown length
of unknown length
lig of 20469 bp in length
lig of maknown length
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Matches:
Conservative:
Mismatches:
Indels:
Gaps:
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	ACCCAACTCAAGGCTGCCCCCTTCCTCACCTACTTTGGACTCTCCAAGTTCAC 27440	27387	망
27386	വ	27327	ğ
207	ValSerGlyLeuLeuProLeuArgProGlySerSerLeuArgIleArgThrLeuProTrp	188	Qy
27326	CTGGAGGAATTCTCGGCCACTGCGGCCAGTTCCCCTGGGCCCCAGCTCCGTCTCTGCCAA	27267	망
187	LeuGluGluPheSerAlaThrAlaAlaSerSerProGlyProGlnLeuArgLeuCysGln	168	Qγ
27266	GGGAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGGATGACACGCTGGCCCTGCGCTGC	27207	В
167	lyval	148	Qγ
27206	AGGGCCAGCAGAGGCCTGGACTCCGCCCCCCCCCCCCCC	27147	Дb
147	HisPheAspGlu	144	Qy
27146	GAGCGTGGGGTTTGGGCTGAGAGGAGCCTTGGGCCTCTAAGGACACCTGAGATGAAGCCC	27087	Db
143		143	Qy
27086	CCGGAACTGAAGGAGAAAGGCTGGGCTTCGGGGTTGGGGGCAAGTTAAAGGTGGGGAGGG	27027	DЬ
143		143	Qy
27026	CGGGCTGGGCTGTACCTGTACTGTCAGGT-AAGCCCCACCTGGCTCCACGGGTAAAG	26968	Ъ
143	ArgAlaGlyLeuTyrTyrLeuTyrCysGlnVal	133	Qy
269		26908	망

Search completed: May 8, 2003, 03:40:19 Job time: 2022.08 secs

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Result
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Maximum DB
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Listing first 45 summaries
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Perfect score:
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Match
                                                                                                                                                                                                                                                                                                                                                                                                                          is the number of results predicted by chance to have a ster than or equal to the score of the result being printed, rived by analysis of the total score distribution.
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Copyright (c) 1993 - 2003 Compugen Ltd.
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  AAW29745
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Amino acid sequenc
Human pRO207 antit
Human TREPA (TNF r
Human PRO207 polyp
Homo sapiens tumou
                                                                                                                                                    Mus musculus tumou
Amino acid sequenc
Mouse TNRL3 protei
TNF related endoth
                                                                                                                                                                                                                                                                                        Description
                                                                                                                              Human tumour necro
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Human CD40L mutein	AAW09115	18	261	7.7	90	45
CD40 ligand/zipper	AAW24013	18	182	7.7	90	44
	AAW24011	18	182	7.7		43
m cell alkal	AAP91776	10	531	7.8	90.5	42
4	AAB82092	22	318	7.8	90.5	41
	AAY58215	21	260	7.8	90.5	40
ō	AAY58216	21	211	7.8	90.5	39
	AAW09123	18	294	7.8	91	3 8
CD40 ligand/zipper	AAW09128	18	182		91	37
Human CD145 mutant	AAM49225	23	261	•	92	36
Drosophila melanog	AAU77716	23	409		96.5	35
Fusion construct C	AAB86311	22	255		97	34
	AAB62339	22	234	•		33
TRAN	AAU78289	23	316			32
	AAY84419	21	316	٠	•	31
	AAY84418	21	316		•	30
ei.	.AAY91024	21	316		102.5	29
Murine TRANCE. Mu	AAY17874	20	316	8.8	102.5	28
Amino acid sequenc	AAW59654	19	316		102.5	27
Osteoclastogenesis	AAW83017	19	316	•	102.5	26
Human osteoprotege	AAW83194	19	316	•	102.5	25
~	AAB62340	22	220	•	103	24
RANKL (re	AAE01992	22	294	•	106.5	23
receptor	AAE04425	22	294		106.5	22
e recepto	AAE08737	22	294		106.5	21
receptor	AAW68292	19	294	•	106.5	20
NF-kB receptor act	AAW69956	19	294	•	•	19
	ABB67553	22	325		107.5	18
	AAU77718	23	409		110.5	17
Drosophila melanog	AAU77717	23	406	•	111	16
Human TREPA (TNF r	AAE00895	22	146		721	15
Human UL4flag TREP	AAE00892	22	189		742	14
ጠ	AAW29746	19	189		4	13
extrac	AAU03499	22	273	81.8	951	12
Human TNRL3 prote1	AAW93590	20	208	81.8	951	11

ALIGNMENTS

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RESULT 1
                                     18-MAR-1997;
07-AUG-1996;
18-OCT-1996;
                                                                                                                                                       Key
Domain
                                                                                                                                                                                      Mus musculus
                                                                                                                                                                                                           graft rejection.
                                                                                                                                                                                                                   TRELL; tumour necrosis factor related ligand; tnf; treatment; cancer; autoimmune disease; immune system; stimulation; suppression;
                                                                                                                                                                                                                                                   Mus musculus tumour necrosis factor related ligand (TRELL).
                                                                                                                                                                                                                                                                                                                 AAW47524 standard; Protein; 225
                                                                                07-AUG-1997;
                                                                                                                       WO9805783-A1
                                                                                                                                                                                                                                                                         21-JUL-1998
       (BIOJ ) BIOGEN INC. (UYGE-) UNIV GENEVA FACULTY MEDICINE.
                                                                                                    12-FEB-1998
                                                                                                                                                                                                                                                                         (first entry)
                                     97US-0040820.
96US-0023541.
96US-0028515.
                                                                               97WO-US13945
                                                                                                                                                        Location/Qualifiers
1..21
                                                                                                                                          /note= "hydrophobic, transmembrane domain"
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Best Local
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                                                                                                                                                                                                                 TWEAK protein; immunological disorder; immune response; inflammation; TWEAK blocking agent; autoimmune disease; organ transplant rejection; Graft-versus-Host disease; GVHD; lymphoid cell malignancy; shock; tum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB07527 standard;
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                                 20-JUL-2000
                                                                                                WO200042073-A1
                                                                                                                                                                                                                                                                                                                                                         Amino acid
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                                                                                                                                                                                                                                                                                                                                                  sequence of a soluble recombinant murine TWEAK protein.
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ilarity 100.0%;
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Pred. No. 1.3e-112;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI;
                                                                                                     developmental abnormality; gestational abnormalitity; prostate cancer; APO6; APO8; APO9; TNRL-1; TNRL-3; diagnosis; treatment; therapy; diseacytoplasmic domain; immunogen; antibody preparation; breast carcinoma;
                                                                                          apoptosis;
                                                                                                                                                Tumour necrosis factor receptor; signal transducer molecule;
                                                                                                                                                                           Mouse TNRL3
                                                                                                                                                                                                     18-JUN-1999
                                                                                                                                                                                                                                AAW93591;
                                                                                                                                                                                                                                                        AAW93591 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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Pred. No. 1.3e-112;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This invention describes isolated Tumor Necrosis Factor (TNF) family creeptor polypeptides: APO4, APO6, APO8 and APO9 or their active fragments, and isolated TNF related ligands 1 and 3 (TNRL1 and TNRL3) or their active fragments. APO4 is useful for diagnosing prostate cancer by determining levels of APO4 in an individual. Prostate cancer can also be treated using APO4 selective binding agents linked to a therapeutic molety. APO4 polypeptides are also useful for identifying selective binding agents to the polypeptide/active fragment which is extracellular, or expressed on the cell surface. The binding is preferably performed in vivo. APO4 polypeptides/active fragments are also useful for screening for agonists and antagonists by binding and observing the changer in APO4 activity. Effective pharmacological agents useful in diagnosis or treatment of disease are also identified using APO4 polypeptides/active fragments and APO4 signal transducer molecules that specifically interact with a cytoplasmic domain of APO4 and detecting a change in level of APO4 activity. The method is performed in vivo or in vitro. APO polypeptides are all useful as immunogens for preparing antibodies. APO4 is also useful for diagnosis/treatment of developmental or gestational abnormalities. APO8 was transfected to human breast carcinoma cell line
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 210;
                             TNF related endothelium proliferative agent protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New Tumor Necrosis Factor family receptor polypeptides and ligands useful for diagnosis and treatment of prostate cancer and developmental or gestational abnormalities
      TNF;
                                                               27-OCT-1998
                                                                                             AAW29745;
                                                                                                                       AAW29745 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 40; Fig 13B; 156pp; English
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N-PSDB; AAX23425.
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                                                                                                                                                                                                                                                         RPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH 225
                                                                                                                                                                                                                                                                                                                                                                                                  LVVVSLGSWATLSAQEPSQEELTAEDRREPPELNPQTEESQDVVPFFLEQLVRPRRSAPKG
                                                                                                                                                                                                                                                                                                                      RKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLRYDRQIGEFTVIRA
                                                                                                                                                                                                                                                                                                                                      RKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLRYDRQIGEFTVIRA 134
                                                                                                                                                                                                                                                                                                                                                                                 LVVVSLGSWATLSAQEPSQEELTAEDRREPPELNPQTEESQDVVPFLEQLVRPRRSAPKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        211 AA;
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                                                           (first entry)
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 proliferative agent; TREPA; wound healing; cancer;
                                                                                                                       Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      apoptosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                           93.7%;
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Pred. No. 4.9e-105;
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Human tumour necrosis factor Apo-3 ligand protein sequence.
                               15-JUL-1999
                                                             AAY09369;
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                                                                                         AAY09369 standard;
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The TNF-related endothelium proliferative agent (TREPA), or its contivators or agonists, are used to treat a deficit of TREPA, e.g. to comprome wound healing or tissue grafting, by promoting vascularisation, cc also to induce apoptosis for treating cancer and eliminating autoreactive Treating to induce apoptosis for treating cancer and eliminating autoreactive control of the cancer chemotherapy or antiviral treatment. The relative can also be used to target cytotoxic agents or for cc affinity isolation of the corresponding receptor, the nucleic acid for cresponsive to TREPA and to screen for TREPA mimics. Cc responsive to TREPA and to screen for TREPA mimics. Cc responsive to TREPA and to screen for TREPA mimics. Cc TREPA-associated diseases, e.g. tumours and metastases (by inhibiting conditions involving abnormal stimulation of epithelial cells (e.g. conditions involving abnormal stimulation of epithelial cells (e.g. conditions involving abnormal stimulation of epithelial cells (e.g. cc atherosclerosis), for birth control (inhibiting ovulation and placental formation) or other angiogenic conditions (e.g. ulcers).
                                                                                                                                                                                                                                                                                             Query Match
Best Local S
Matches 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Detecting nucleic acid encoding TREPA - useful for diagnosis treatment of autoimmune disease, tumours and inflammation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W09835061-A2
                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 16; Page 123-4; 142pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1998-447255/38.
N-PSDB; AAV47613.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tissue grafting; vascularisation; apoptosis; autoimmune; birth control.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10-FEB-1998;
12-FEB-1997;
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                                                                                                                                                                                                                    Local Similarity
                                                                                        YDRQIGEFTVIRAGLYYLYCQVHFDEGKAVYLKLDLLVNGVLALRCLEEFSATAASSPGP
                                                                                                                                                                 EQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLR 121
QLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH 249
                                    QLRLCQVSGLLPLRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH
                                                                      YNRQIGEFIVTRAGLYYLYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGP
                                                                                                                                               NRLVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLR
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97US-0798692
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                                                                                                                                                                                                                                                                                                               87.8%;
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Pred. No. 9.5e-98;
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(first entry)

Protein;

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Best Local
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                                                                                                                                                                                       TWEAK
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10-OCT-1997;
                                                                          Homo sapiens.
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NF-kappaB-dependent transcription; JNK/SAPK-dependent response;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLR 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LSLGLALACLGLLLVVVSLGSWATLSAQEPSQEELTAEDRREPPELNPQTEESQDVVPFL 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LGLGLALACLGLLLAVVSLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFL 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1999-287982/24.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YNRQIGEFIVTRAGLYYLYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGP
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                                                                                                                                        protein; immunological disorder; immune response; inflammation;
blocking agent; autoimmune disease; organ transplant rejection;
-versus-Host disease; GVHD; lymphoid cell malignancy; shock; tum
                                                                                                                                                                                                                                                                                                         acid
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                                                                                                                                                                                                                                                                                                         sequence
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97US-0062037.
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Pred. No. 9.5e-98;
9; Mismatches 16;
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RESULT 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          be used for preventing and treating immune disorders associated with inappropriate expression and/or activity of TWEAK. These disorders include autoimmune diseases, acute and chronic inflammation, organ transplant rejection, Graft-versus-Host disease (GVHD), lymphoid cell malignancies, septic and other forms of shock, loss of immune responsiveness (as seen in human immunodeficiency virus (HIV) infections) and failure of the immune response to tumour growth.
Key
Peptide
                                                                                                                                    PRO207; human; antitumour; tumour; therapy; cytostatic; breast cancer; ovarian cancer; renal cancer; colorectal cancer; uterine cancer; prostate cancer; lung cancer; bladder cancer; central nervous system cancer; melanoma; leukaemia; neoplasm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The present sequence represents a TWEAK protein. The specification describes a method for preventing or treating an immunological disorder and/or inhibiting an immune response in an animal. The method comprises administering a TWEAK blocking agent. The method
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Preventing and treating immune responses using modulators, antibodies, of TWEAK, TWEAK receptors and TWEAK ligands, us treating e.g. inflammation and graft versus host disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI;
                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                     Human PRO207 antitumour protein.
                                                                                                                                                                                                                                                                                                                                                25-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                        AAY95338;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY95338 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLR 121
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Pred. No. 9.5e-98;
9; Mismatches 16;
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The present sequence is that of human antitumour protein PRO207, as deduced from a foetal kidney cDNA clone (see AAA49717). PRO207 shows amino acid sequence identity to tumour necrosis factor family members, especially human lymphotoxin-beta (23.4%) and human CD40 ligand (19.8%). Mol.wt. is 27,216. A claimed method for inhibiting the growth of a tumour cell comprises exposing the tumor cell to PRO179, PRO207, PRO320, PRO219, PRO221, PRO221, PRO232, PRO326, PRO319, PRO366 (see AAY95337-49), their agonists or chimeric polypeptides incorporating them. The tumour is especially a cancer selected from breast, ovarian, renal, colorectal, uterine, prostate, lung, bladder and central nervous system cancer, melanoma and leukaemia. Methods for the recombinant
                                                                                                                                                                                                                                                                                                                                                                                   20-JUL-1999;
26-JUL-1999;
                                                                                                                                                                             Claim 19; Fig 4; 172pp; English
                                                                                                                                                                                                               Novel composition to inhibit neoplastic cell growth or tumor in mammal comprises polypeptides PRO179, PRO207, PRO221, PRO324, PRO328, PRO301, PRO526, PRO362, PRO356,
                                                                                                                                                                                                                                                                                                                                                                                                                                    08-MAR-1999;
21-APR-1999;
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        system cancer, mel expression of the
                                                                                                                                                                                                                                                                N-PSDB; AAA49717
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Napier MA, Pitti RM,
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99WO-US05028.
99US-0130232.
99US-0131445.
99US-0134287.
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99US-0145698.
99WO-US21090.
99WO-US21547.
                                                                                                                                                                                                                                                                                                              Goddard
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139..143
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/label=
27..33
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24..35
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97..101
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10..14
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45..51
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36..42
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29..35
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                                                                                                                                                                                                                                                                                                    Wood WI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "prokaryotic membrane lipoprotein lipid"
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          proteins are
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        also provided
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Best Local
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N-PSDB; AAD04350.
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                                                                                                                                                                                                                                            Inducing angiogenesis in mammal at desired sites for promoting wound healing, by administering soluble fragment of extracellular domain of tumor necrosis factor related endothelium proliferative agent protein
                                                                                                                                                                                                                                                                                                                                                                                                       Wiley SR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12-FEB-1997;
10-FEB-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   grafting;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human TREPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAE00891;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAE00891 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                (ABBO ) ABBOTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Domain
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QLRLCQVSGLLPLRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LSLGLALACLGLLLVVVSLGSWATLSAQEPSQEELTAEDRREPPELNPQTEESQDVVPFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NRLVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLR 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLR 121
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   our necrosis factor; TNF; angiogenesis; wound healing; related endothelium proliferative agent; tumour; meta
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98US-0021706
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98US-0105343
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /label= Extracellular_domain
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88.8%;
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No. 9
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The present invention relates to extracellular signal molecules, particularly members of tumour necrosis factor (TMF) family molecules designated as TREPA (TMF related endothelium proliferative agent). Soluble biologically active TREPA are used to treat TREPA-associated diseases, tumours or metastases. TREPA is used for inducing angiogenesis in human for promoting wound healing and for vascularising grafted tissue for successful grafting and to promote tissue grafts.

Claim

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Column 75-76;

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English.

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RESULT 9
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                                                                                                                                                                   28-JUL-1999
17-AUG-1999
31-AUG-1999
01-SEP-1999
01-SEP-1999
30-NOV-1999
01-DEC-1999
01-DEC-1999
05-JAN-2000;
                                        Marsters
Watanabe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; PRO; benign tumour; malignant tumour; lymphoid malignancy; leukaemia; neuronal disorder; stromal disorder; blastocoelic disorder; inflammatory disorder; immune disorder; angiogenic disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-JUL-2001.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cytostatic; neuroprotective.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human PRO207 polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAU86129
                                                                                  Ashkenazi AJ,
                                                                                                                             (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                       22-JUN-1999;
20-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAU86129 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                 22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                206 QLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  182 QLRLCQVSGLLPLRPGSSLRIRTLPWAHLKAAPELIYFGLFQVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 146 YNRQIGEFIVTRAGLYYLYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       122 YDRQIGEFTVIRAGLYYLYCQVHFDEGKAVYLKLDLLVNGVLALRCLEEFSATAASSPGP 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    86 NRLVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 LSLGLALACLGLLLYVVSLGSWATLSAQEPSQEELTAEDRREPPELNPQTEESQDVVPFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   present amino acid sequence is clone ID #690050 human TREPA.
  2002-205567/26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLR 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        199;
                                        CK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             249 AA;
                                                                                                                                                                   99WO-US21090.
99WO-US28313.
99WO-US28301.
99WO-US28634.
2000WO-US00219.
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                                          Pan J,
Wood WI;
                                                              Pan
                                                                                  Goddard
                                                                                                                                                                                                                                                                                99US-151689P.
99WO-US20111.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-133459P
                                                                                                                                                                                                                                                                                                                          99US-149395P.
                                                                                                                                                                                                                                                                                                                                              99US-146222P:
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990S-145698P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          99WO-US12252
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88.8%;
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                                                          Godowski PJ,
LRM, Roy MA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       249
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Pred. No. 9.5e-98;
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                                                            Gurney
Smith
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                                                              Stone
                                                          Hillan KJ;
Stone DM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
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Best Local
                                                                                                                                                          18-MAR-1997;
07-AUG-1996;
18-OCT-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRELL; tumour necrosis factor related ligand; tnf; treatment; cancer; autoimmune disease; immune system; stimulation; suppr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Thirty five nucleic acids encoding PRO polypeptides, useful for treating benign or malignant tumours, leukaemias and lymphoid malignancies, inflammatory, angiogenic and immunologic disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 graft rejection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
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                         Browning JL,
                                                                          (BIOJ ) BIOGEN INC. (UYGE-) UNIV GENEVA FACULTY MEDICINE
                                                                                                                                                                                                                                                                             07-AUG-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens tumour necrosis factor related ligand
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                122
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YDRQIGEFTVIRAGLYYLYCQVHFDEGKAVYLKLDLLVNGVLALRCLEEFSATAASSBGP 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLR 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LGLGLALACLGLLLAVVSLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       249 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                            Chicheportiche
                                                                                                                                                          97US-0040820.
96US-0023541.
96US-0028515.
                                                                                                                                                                                                                                                                          97WO-US13945
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88.8%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 1020; DB 23; Pred. No. 9.5e-98;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           stimulation; suppression;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TRELL).
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ARESULT 11 AAW93590
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DT 18-JUN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The sequence is that of human tumour necrosis factor related CC ligand (TRELL). TRELL or active fragments can be included with a carrier in pharmaceutical compositions to treat cancer, autoimmune C diseases or immune responses to tissue grafts, or to stimulate or suppress the immune system. It is useful to screen for TRELL receptors, by labelling with a detectable label and screening compositions for binding. Agents interfering with TRELL-receptor binding can also be screened for, can then be administered, optionally with interferon gamma, to induce cell death or treat, suppress or alter immune responses (especially involving human cadenocarcinoma cells) involving a signal pathway between TRELL and its receptor. It's coding sequence can be used in gene therapy for TRELL-related disorders in mammals (especially humans), e.g. tumours, autoimmune and inflammatory diseases or inherited genetic disorders, by introducing into cells, and expressing, therapeutically effective amounts of a vector, e.g. a virus comprising a gene encoding TRELL. It may also be of use in the preparation of prepare probes for antience therapeutical synthetic DNAs for TRELL-encoding sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                   Tumour necrosis factor receptor; signal transducer molecule; TNF; APO4; developmental abnormality; gestational abnormalitity; prostate cancer; APO6; APO8; APO9; TNRL-1; TNRL-3; diagnosis; treatment; therapy; disease; cytoplasmic domain; immunogen; antibody preparation; breast carcinoma;
                   11-MAR-1999
                                                                                                                                                                                                                                             Human TNRL3 protein.
                                                                                                                                                                                                                                                                                       18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tumour necrosis factor related ligand - useful for,
                                                                                                                                   apoptosis; human.
                                                                                                                                                                                                                                                                                                                                                             AAW93590 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 12; Pages 50-51; 69pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1998-145619/13
                                                          W09911791-A2
                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122 YDRQIGEFTVIRAGLYYLYCQYHFDEGKAVYLKLDLLVNGVLALRCLEEFSATAASSPGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           182 QLRLCQVSGLLPLRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 NRLVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 IGIGLALACIGLLLAVVSIGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 LSLGLALACIGLLLVVVSLGSWATLSAQEPSQEELTAEDRREPPELNPQTEESQDVVPFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for antisense therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        QLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLR 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YNRQIGEFIVTRAGLYYLYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  199;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             284 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  87.8%;
88.8%;
                                                                                                                                                                                                                                                                                                                                                               208
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 1020;
Pred. No. 1
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1.1e-97;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                          284
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               e.g. tr
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ue grafts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
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Best Loc Matches Query Match

Local Similarity mes 185; Conserv

Conservative

8,

Score 951; DB 20; Pred. No. 1.1e-90; 8; Mismatches 15;

Length 208; Indels

0

Gaps

0

81.8%; 88.9%;

AAU03499 standard;

Protein;

26-SEP-2001

(first entry)

TWEAK extracellular domain; tumour necrosis factor; TNF; angiogenesis;

TWEAK extracellular domain-containing fusion protein

, Q B δÃ 밁 Š ₽ δÃ

> 13 78

RARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYYRQIGEFIVTRAGLY RPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLRYDRQIGEFTVIRAGLY

120

180 197

198 SSLRIRTLPWAHLKAAPFLTYFGLFQVH

SSLRIRTLPWAHLKAAPFLTYFGLFQVH

208 225 121 YLYCQYHFDEGKAYYLKLDLLYDGYLALRCLEEFSATAASSLGPQLRLCQYSGLLALRPG 138 YLYCQVHEDEGKAYYLKLDLLVNGVLALRCLEEFSATAASSPGPQLRLCQVSGLLPLRPG

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181

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CC receptor polypeptides: APO4, APO6, APO8 and APO9 or their active fragments, and isolated Tur related ligands I and 3 (TNRLI and TNRL3) or their active fragments. APO4 is useful for diagnosing prostate cancer CC their active fragments. APO4 is useful for diagnosing prostate cancer CC by determining levels of APO4 in an individual. Prostate cancer can also be treated using APO4 selective binding agents linked to a therapeutic CC moiety. APO4 polypeptides are also useful for identifying selective CC binding agents, useful in diagnosis/treatment of disease by binding of agents to the polypeptide/active fragment which is extracellular, or CC expressed on the cell surface. The binding is preferably performed in CC vivo. APO4 polypeptides are also identified using aponists and antagonists by binding and observing the changer in APO4 CC activity. Effective pharmacological agents useful in diagnosis or CC treatment of disease are also identified using APO4 polypeptides/active fragments and APO4 signal transducer molecules that specifically interact with a cytoplasmic domain of APO4 and detecting a change in level of APO4 cactivity. The method is performed in vitro. APO9 polypeptides are also interact of are all useful as immunorens for preparing antibodies apo4 is also
                                                               are all useful as immunogens for preparing antibodies. APO4 is also useful for diagnosis/treatment of developmental or gestational abnormalities. APO8 was transfected to human breast carcinoma cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 40; Fig 13A; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New Tumor Necrosis Factor family receptor polypeptides and ligands useful for diagnosis and treatment of prostate cancer and developmental or gestational abnormalities
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB; AAX23424
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    04-SEP-1998;
                                                   and induced
208 AA;
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                                                   apoptosis.
                                                                       cell line
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The sequence represents a a fusion protein encoded by the expression vector pDC409-LZ-TWEAK. The fusion protein comprises a CC growth hormone leader, a leucine zipper multimerisation domain, and CC the extracellular domain of human TWEAK. The fusion protein was CC used in the isolation of human TWEAK receptor (TWEAK)-expressing CC clones from a COS cell human cDNA library. The TWEAK protein is CC ammber of the tumour necrosis factor (TNF) family and induces and induces and exceptor (TWEAK) and induces CC angiogenesis. TWEAKR may therefore be used to screen for and CC develop TWEAKR agonists and antagonists for the modulation of CC angiogenesis, to be used in the treatment and diagnosis of human disease. The disorders mediated by angiogenesis include ocular disorders conscular flavorders are trinoblastoma, retinopathy of prematurity, CC retrolental fibroplasia, rubeosis, uveitis, macular degeneration and CC arthritis, rheumatism and psoriasis. Other treatable diseases include arthritis, rheumatism and psoriasis. Other treatable diseases include benign tumours and preneoplastic conditions, myocardial angiogenesis, benegation, telangictasia, wound granulation, coronary atherosclerotic plaque neovascularisation, telangictasia, wound granulation, coronary atherosclerotic atherosclerotic arther arther at atherosclerotic applications.
                                                                                                                                                                      Matches
                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ocular neovascularisation; diabetic retinopathy; neovascular glaucoma; retinoblastoma; retinopathy of prematurity; retrolental fibroplasia; rubosis; uveitis; macular degeneration; arthritis; rheumatism; corneal graft neovascularisation; psoriasis; metastatic condition; malignant tumour; sarcoma; carcinoma; benign tumour; haemophilic joint; preneoplastic condition; myocardial angiogenesis; wound granulation; scleroderma; vascular adhesion; telangiectasia; ischaemia; human; atherosclerosic; plaque neovascularisation; coronary atherosclerosis; peripheral atherosclerosis; pDC409-LZ-TWEAK; TWEAK receptor; TWEAKR;
                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                           atherosclerosis, peripheral atherosclerosis and ischaemia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Modulating angiogenesis in a mammal for treating diseases mediated by angiogenesis, e.g. solid tumours and vascular deficiencies of cardiac peripheral tissue, by administering antagonist or agonist of TWEAK receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 1; Page 41; 46pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; AAS03964.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (IMMV ) IMMUNEX CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-DEC-1999; 99US-0172878.
10-MAY-2000; 2000US-0203347.
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        127
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                                              79
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                                                                                                                                19
                                                                                                                                                                                            Local
PRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLRYDRQIGEFTVIRAGLYY 138
                                                                                                   SLGSWATLSAQEPSQEELTAEDRREPPELNPQTEESQDVVPFLEQLVRPRRSAPKGRKAR 78
                                                                              SIGSRASISAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTR 126
                                                                                                                                                                         184;
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                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                       273 AA;
                                                                                                                                                                    Conservative
                                                                                                                                                                                       81.8%;
88.9%;
                                                                                                                                                                    9;
                                                                                                                                                                Score 951; DB
Pred. No. 1.6e
9; Mismatches
                                                                                                                                                                DB 22;
16e-90;
14;
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97

RAGLYYLYCQVHFDEGKAVYLKLDLLVNGVLALRCLEEFSATAASSPGPQLRLCQVSGLL 192

RAGLYYLYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLL

KGRKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEETKINSSSPLRYDRQIGEETVI 132

KGRKTRARRGIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVT

96

Query Match Best Local S Matches 142

Similarity

63.9%; 92.8%;

Score 742; DB 19; Pred..No. 5.7e-69; 3; Mismatches 8

8;

0

Gaps

Length

Conservative

Sequence

189

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The TNF-related endothelium proliferative agent (TREPA), or its C activators or agonists, are used to treat a deficit of TREPA, e.g. to CC promote wound healing or tissue grafting, by promoting vascularisation, CC also to induce apoptosis for treating cancer and eliminating autoreactive T cells, as an adjunct to cancer chemotherapy or antiviral treatment. CC TREPA peptides can also be used to target cytotoxic agents or for CC affinity isolation of the corresponding receptor, the nucleic acid for CC which can be used to transform tumour cells to render them more CC responsive to TREPA and to screen for TREPA mimics. CC RIDOZYMES, antisense RNA, antibodies or peptides, are used to treat CC TREPA-associated diseases, e.g. tumours and metastases (by inhibiting CC vascularisation), inflammation or a wide range of autoimmune conditions, CC conditions involving abnormal stimulation of epithelial cells (e.g. conditions involving abnormal stimulation of epithelial cells (e.g. cC formation) or other angiogenic conditions (e.g. ulcers).
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                                                                                                                                                                                                                                                                                                                                             Detecting
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12-FEB-1997;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tissue grafting;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TNF related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-OCT-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               endothelium proliferative agent; TREPA; wound healing; cancer;
ue grafting; vascularisation; apoptosis; autoimmune; birth cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LYCQVHFDEGKAVYLKLDLLVNGVLALRCLEEFSATAASSPGPQLRLCQVSGLLPLRPGS 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SLRIRTLPWAHLKAAPFLTYFGLFQVH 225
                                                                                                                                                                                                                                                                                             Page 125-6; 142pp; English.
                                                                                                                                                                                                                                                                                                                           nucleic acid encoding TREPA - useful for diagnosis and of autoimmune disease, tumours and inflammation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  endothelium proliferative agent protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
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97US-0798692.
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XX TREPA
XX US62C
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                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 142; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present invention relates to extracellular signal molecules, particularly members of tumour necrosis factor (TNF) family molecules designated as TREPA (TNF related endothelium proliferative agent). Soluble biologically active TREPA are used to treat TREPA-associated diseases, tumours or metastases. TREPA is used for inducing angiogenesis in human for promoting wound healing and for vascularising grafted tissue for successful grafting and to promote tissue grafts. The present amino acid sequence is human UL4flag TREPA soluble construct. This sequence which is a biologically active molecule is capable of inducing proliferation in HUVEC (human umbilical vein endothelial cells) cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TREPA; TNF related
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 2; Column
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Inducing angiogenesis in mammal at desired sites for promoting wound healing, by administering soluble fragment of extracellular domain of tumor necrosis factor related endothelium proliferative agent protein
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10-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; tumour necrosis factor; TNF; angiogenesis; wound healing; TREPA; TNF related endothelium proliferative agent; metastasis; vulnerary; HUVEC; human umbilical vein endothelial cell; UL4flag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human UL4flag TREPA soluble construct.
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                                                                                                          97
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                                                                                                                                                                                                                                                                              73
                                                                                                                                                                                                               PLRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH 225
                                                                                                    ALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH
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98US-0021706
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Pred. No. 5.7e-69;
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Inducing angiogenesis in mammal at desired sites for promoting wound healing, by administering soluble fragment of extracellular domain of tumor necrosis factor related endothelium proliferative agent protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; tumour necrosis factor; TREPA; TNF related endothelium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tissue for successful grafting and The present amino acid sequence is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Example 14; Fig.1;
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10-FEB-1998;
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ALIGNMENTS

JOURNAL MEDLINE PUBMED Mus musculus
Eukaryota; Metazoa;
Mammalia; Eutheria; Carninci,P., Shibata,Y., Hayatsu,N., Sugahara,Y., Shibata,K., Itoh,M., Konno,H., Okazaki,Y., Muramatsu,M. and Hayashizaki,Y. Normalization and subtraction of cap-trapper-selected cDNAs to prepare full-length cDNA libraries for rapid discovery of new genome Res. 10 (10), 1617-1630 (2000) 20499374 11042159 Carninci,P. and Hayashizaki,Y.
High-efficiency full-length cDNA cloning
Meth. Enzymol. 303, 19-44 (1999) Mus musculus (strain:C57BL/6J) adult clone_lib:RIKEN full-length enriched clone:A930030D13. AK020909 1033 bp Mus musculus adult retina cDNA, clone:A930030D13:tumor necrosis AK020909.1 GI:12861640 HTC; CAP trapper. full insert sequence Chordata; Rodentia; Craniata; Vertebrata; Sciurognathi; Muridae; mRNA linear HTC 19-JAN-2002 RIKEN full-length enriched library, factor (ligand) superfamily, member retina cDNA to mRNA, mouse cDNA library Euteleostomi; Murinae; Mus. genes

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RS Adachi, J., Aizawa, K., Akahira, S., Akimura, T., Aono, H., Arai, A., Rs Adachi, J., Aizawa, K., Bono, H., Brownstein, M., Bult, C., Carninci, P., Fukuda, S., Fukunishi, Y., Furuno, M., Hanagaki, T., Hara, A., Hayatsu, N., Hill, D., Hiramoto, K., Hiraoka, T., Hori, F., Hume, D., Imotani, K., Ishii, Y., Itoh, M., Izawa, M., Kasukawa, T., Kato, H., Kawai, J., Kojima, Y., Konno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Okazaki, Y., Okido, T., Owa, C., Quackenbush, J., Salto, H., Saito, R., Sakai, C., Sakai, K., Sano, H., Sasaki, D., Schriml, L., Shibata, K., Shibata, Y., Shibata, Y., Shinagawa, A., Shiraki, T., Sogabe, Y., Suzuki, H., Tagami, M., Tagawa, A., Takahashi, F., Tanaka, T., Tejima, Y., Toya, T., Yamamura, T., Yamanaka, I., Yasanishi, A., Yoshida, K., Yoshino, M., Muramatsu, M., and Uanus-Nisaki, A., Yoshida, K., Yoshino, M., Muramatsu, M., and
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                                                                                                                                                                                                                                                                                                                                                                             Direct Submission

Submitted (18 AUG-2000) Yoshihide Hayashizaki, The Institute of Physical and Chemical Research (RIKEN), Laboratory for Genome Exploration Research Group, RIKEN Gemomic Sciences Center (GSC), RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa 230-0045, Japan (E-mail:genome-res@gsc.riken.go.jp, URL:http://genome.gsc.riken.go.jp/, Tel:81-45-503-9222, Fax:81-45-503-9216)

Fax:81-45-503-9216)

Please visit our web site (http://genome.gsc.riken.go.jp/) for further details.
CDNA library was prepared and sequenced in Mouse Genome Encyclopedia Project of Genome Exploration Research Group in Riken Genomic Science Scenter and Genome Science Laboratory in RIKEN. Division of Experimental Animal Research in Riken contributed to prepare mouse tissues. First strand cDNA was primed with a primer [5' GAGAGAGAGAGACCCAACAGCTCTTTTTTTTTTTTTTTNN 3'], cDNA was prepared by using trehalose thermo-activated reverse transcriptase and subsequently enriched for full-length by cap-trapper. cDNA went through two rounds of normalization to Rot = 20.0 and subtraction to Rot = 458.8. Second strand cDNA was prepared with the primer
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Retina RNA was provided by Stefano Gustincich (Department of Neurobiology, Harvard Medical School, 220 Longwood Ave., Boston, 02115, USA) whose assistance is gratefully acknowledged.
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                                                                                                                         http://image.llnl.gov
Plate: LLAM9767 row: p column:
High quality sequence start: 17
High quality sequence stop: 724.
Location/Qualifiers
                                                                                                                                                                                               Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey E. Green, M.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution: MGC clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA sequence.
BF577781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BF577781 918 bp mRNA linear EST 12-DEC-5602092080F1 NCI_CGAP_CO24 Mus musculus cDNA clone IMAGE:4206595
                                                                                                                                                                                                                                                                                                             NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus
                                                                                                                                                                                                                                                                                                   Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 918)
/organism="Mus musculus"
/strain="FYB/N"
/strain="FYB/N"
/db_xref="taxon:10090"
/clone="IMAGE:4206595"
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/clone=1bb="NCI_CGAP_CO24"
/lab_host="DH10B_(TI_Phage-resistant)"
/note="Oxygan: colon; Vector: pCMV-SPORT6; Si
Site_2: Sall; Cloned unidirectionally. Prin
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Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; 1 (bases 1 to 731)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collect
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BI871711.1
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603395825F1 NIH_MGC_90 Homo
                                                            Homo sapiens
                                                                       human.
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                                               TTTGTGCCAGGTGTCTGGGCTGTTGCCGCTGCGGGCCAGGGTCTTCCCTTCGGATCCGCAC
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Plate: LLAM12034 row: b column:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
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Contact: Robert St
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
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/clone_lib="NIH_MGC_90"
/clone_lib="NIH_MGC_90"
/tlssue_type="ademocarcinoma, cell line"
/lab_host="DH10B (phage resistant)"
/note="Organ: liver; Vector: pCMV-SPORT6; Site_1: NotI, Site_2: Sali; Cloned unidirectionally; oligo-dT primed. Average insert size 1.7 kb. Library enriched for full-length clones and constructed by Life Technologies. Note: this is a NIH_MGC_Library."

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/db_xref="taxon:9606"
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                AGCCCATTATGAGGTTCATCCTCGGCCAGGACAGGATGGAGCACAAGCAGGTGTGGATGG
                                                 AGTTCGGCCTCGCAGAAGTGCACCTAAAGGCCGGAAAACACGGGCTCGAAGAGCGATCGC
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Plate: LLAM12034 row: a column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (1999)
Contact: Robert St
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National Institutes of Health, 1
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BI870393
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
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                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                  /organism="Homo sapiens"
/db_xref="taxon:9606"
/db_xref="taxon:9606"
/clone="IMAGE:5405459"
/clone_lib="NHH_MGC_90"
/tissue_type="adenocarcinoma, cell line"
/lab_host="DH10B (phage-resistant)"
/note="Organ: liver; Vector: pcMV-SPORT6; Site_1: Not1;
/site_2: Sal1; Cloned unidirectionally; oligo-dT primed.
Average insert size 1.7 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
25 a 240 c 227 g 136 t
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Pred. No. 4.5e-121;
"" amatches 86;
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Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Lothar Hennighausen Ph.D., Chu-Xia Deng F
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Washington University Genome Sequencing C
Clone distribution: NCI-CGAP clone distribution information
found through the I.M.A.G.E. Consortium/LLNL at:
image.llnl.gov/image/html/iresources.shtml
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similar to TR:054907 054907 T
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Other_ESTs: ur70d09.x1
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National Cancer Institute, Cancer Genome Anatomy
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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Location/Qualifiers
            /organism="Mus musculus"
/strain="129,C57BL/6J,FVB/N"
/db_xref="taxon:10090"
/clone="IMAGE:3155633"
/clone_lib="NCI_CGAP_Mam3"
/tissue_type="tumor, gross tissue"
/dev_stage="10 months"
/lab_host="DH10B"
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       Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
This clone is available royalty-free through LLNL;
IMAGE Consortium (info@image.llnl.gov) for further i
                                                                                 Tumor Gene Index Unpublished (1997)
                                                                                                                                                                                                                                                                                  BE628951

533 bp mRNA linear EST 25-AUG-2000 uu30c03:y1 Soares_mammary_gland_MMLMG Mus musculus cDNA clone IMAGE:3373444 5' similar to TR:O54907 O54907 TNF-RELATED WEAK INDUCER OF APOPTOSIS ; mRNA sequence.
                                                                                                                                                                                                   house mouse.
Mus musculus
                                                                                                                                                                                                                                      EST
IMAGE Consortium MGI:1083048
                                                                                                                NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap
National Cancer Institute, Cancer Genome Ana
                                                                                                                                                  Mammalia; Eutheria;
1 (bases 1 to 533)
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158 c 194 g 100 t 1 others
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99.8%;
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musculus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        polylinker; 1st strand cDNA was prepared from mammary gland tissue from a lactating female, and was then primed with a Not I - ollgo(dT) primer. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pTTT3 vector. Library is normalized. Library was constructed by Bento Soares and M. Fatima Bonaldo. "a 206 c 105 g 131 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone_lib="Soares_mammary_gland_NMIMG"
/sex="female (lactating)"
/tissue_type="mammary gland"
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/clone="IMAGE:3373444"
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                                     GI:13298284
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Pred. No. 2e-118;
D; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: The cepko Laboratory
CDNA Library Preparation: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://Image.llni.gov
Plate: LLAM10435 row: h column: 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NIH-MGC http://mgc.nci.nih.gov/. National Institutes of Health, Mammalian Gene Collection
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1 (bases 1 to 650)
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/tissue_type="retina"
/tisb_host="DH10B (phage-resistant)"
/note="Organ: eye; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: SalI; Cloned unidirectionally; oligo-dT primed.
Average insert size 3.3 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
a 194 c 149 g 150 t
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/db_xref="taxon:10090"
/clone="IMAGE:4527038"
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AUTHORS
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Query Match
Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: msoares@blue.weeg.uiowa.edu
The sequence contained an oligo-dT track that was present in the oligonucleotide that was used to prime the synthesis of first strand cDNA and therefore this may represent a bonafide poly A tail. The sequence tag present in the cDNA between the NotI site and the oligo-dT track served to identify it as a clone from the normalized duodenum library cDNA Library Preparation: M.B. Soares Lab Clone distribution: clones will be available through Research Genetics (www.resgen.com)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BQ208433 687 bp mRNA UI-R-EP0-coc-1-22-0-UI.sl UI-R-EP0 Rattus UI-R-EP0-coc-1-22-0-UI 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Program for Rat Gene Discovery and Mapping University of Iowa 451 Eckstein Medical Research Building Iowa Tel: 319 335 8250 Fax: 319 335 9565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Norway rat.
Rattus norvegicus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bonaldo, M.F., Lennon, G: and Soares, M.B. Normalization and subtraction: two approximations are subtracted.
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae;
  Similarity
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                                                                                                                                                                                                                                         /lab_host="DHIOB (Life Technologies)"
/lab_host="DHIOB (Life Technologies)"
/note="vector: pT713D-Pac (Pharmacia) with a modified
/note="vector: pt713D-Pac (Pharmacia) with a modified
polylinker; Site_1: Not I; Site_2: Eco RI; UI-R-EPO is a
subtracted cDNA library constructed according to Bonaldo,
Lennon and Soares, Genome Research, 6:791-806, 1996. First
strand cDNA synthesis was primed with an oligo-dT primer
containing a Not I site. Double stranded cDNA was ligated
to an EcoR I adaptor, digested with Not I, and cloned
directionally into pT713-Pac vector. The oligonucleotide
used to prime the synthesis of first-strand cDNA contains
a library tag sequence that is located between the Not I
site and the (dT)18 tail. The sequence tags for this
library are: distal colon, GAAGTGCTC; osteoblast,
AAGAYATCAA; cell line R3327 5A, GGACTAGATC; cell line
                                                                                             TAG_TISSUE=duodenum
TAG_SEQ=TGTGGTTCAT"
139 c 219 g
                                                                                                                                                                           TAG_LIB=UI-R-EPO
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/db_xref="taxon:10116"
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No. 3.1e-116;
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             Unpublished (1998)
Contact: Lee, NH
The Institute for (
                                                                                                                                   Rattus norvegicus
Rattus norvegicus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                              EST
                                                                                                                                                                                                                                                    EST348878 Rat gene index, nor Rattus norvegicus cDNA clone
                                                            Gene Index
                                                                          Rat Genome Project:
                                                                                   1 (bases 1 to 584)
Lee,N.H., Glodek,A., Chandra,I., Mason,T.M.,
Kerlavage,A.R. and Adams,M.D.
                                                                                                                                                                                                                           AW917574.1 GI:8083328
                                                                                                                                                                                                                                         AW917574
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Institute for Genomic Research
2, Medical Center Drive, Rockvi
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5' end, mRNA sequ
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                                                                                                      Quackenbush, J.,
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603034614F1 NIH_MGC_115
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Fax: (301)-838-0208
Email: nhlee@tigr.org
This clone is available through the ATCC,
tel#703-365-2700 for further information
Seq primer: M13 Reverse.
                      mRNA sequence.
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/note="Variation"
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/db_xref="taxon:10116"
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spleen"
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.IMAGE:5175698 5',
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TCTCCTGGGCCCCAGCTCCGTTTGTGCCAGGTGTCTGGGCCTGTTGCCGCCTGCGGCCAGGG
                                                              CTGGTGAACGGTGTGCCTGGCCCTGCGCTGCCTGGAAGAATTCTCAGCCACAGCAAGC
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Email: content Fig. 1909
Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can |
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM11437 row: 1 column: 03
High quality sequence stop: 759.
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1 (bases 1 to 777)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
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/db_xref="taxon:9606"
/clone="IMAGE:5175698"
/clone="IMAGE:5175698"
/clone="IMAGE:5175698"
/clone="IDH-NHLMGC_115"
/lab_host="DH10B"
/note="Organ: pooled brain, lung, testis; Vector:
/note="Organ: pooled brain, lung, testis; Vector:
/note="Organ: pooled brain, lung, testis; vector:
/note="Organ: pooled brain, lung, testis; age range 23-27; 1
source anonymous pool of 6 male brains, age range 23-27; 1
male lung, age 27; and 1 male testis, age 69. Library is
oligo-dT primed and directionally cloned (EcoRV site is
destroyed upon cloning). Average insert size 1.8 kb,
insert size range 1-3 kb. Library is normalized and
enriched for full-length clones and was constructed by C.
Gruber (Invitrogen). Research Genetics tracking code
021. Note: this is a NIH_MGC Library."
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Pred. No. 5.1e-114;
D; Mismatches 126;
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Mammalia; Eutheria; Primates; Catarrhini;
1 (bases 1 to 834)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                           http://image.llnl.gov
plate: LLAMI1517 row: c column:
                                                                                                                                                                                                                                                                                                                                                                                                    Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA sequence.
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603056866F1 NIH_MGC_122
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                                                                                                                                                                                                                                                                                                                                    found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                               CDNA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLN DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information
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                                                 primed and directionally cloned (EcoRV site is destroyed upon cloning). Average insert size 1.4 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 025. Note this is a NIH_MGC Library."

a 287 c 223 g 170 t
                                                                                                                                            /note="Organ: pooled lung and spleen; Vector: pCMV-SPORT6; Site_1: NotI; Site_2: EcoRV (destroyed); RNA source anonymous pool of 24 week female lung, 16 week female spleen, and 20-22 week male spleens. Library is oligo-dr
                                                                                                                                                                                                                                         /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                              /clone_lib-"NIH_MGC_122"
                                                                                                                                                                                                                          /clone="IMAGE:5206217"
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    40.5%;
78.0%;
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    Score 473; DB 13;
Pred. No. 4.4e-112;
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Homo
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Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 948) NIH-MGC http://mgc.nci.nih.gov/.
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Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nih.gov
Tissue Procurement: Dr. Mark Watson
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High quality sequence stop: 550.
Location/Qualifiers
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/clone="IMAGE:6278608"
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/clone="IDH="NIH_MGC_III"
/lab_Nost="DHIOB (phage-resistant)"
/lab_Nost="DHIOB (phage-resistant)"
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/lab_Nost="DHIOB (phage-resistant)
/note="Organ: spleen; Vector: pOTB7; Site_1: xhoI; Site_2:
/note="Organ: spleen; Vector: pOTB7; Directionally cloned
into EcoRIXNhoI sites using the following 5; adaptor:
GGCACGAG(G). Library constructed by Ling Hong in the
laboratory of Gerald M. Rubin (University of California,
Berkeley) using ZAP-CDNA synthesis kit (Stratagene) and
Superscript II RT (Life Technologies). Note: this is a
NIH_MGC Library."
73 a 334 c 252 g 187 t 2 others
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L Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Miklos Palkovits, M.D., Ph.D.
cDNA Library Preparation: Michael J. Brownstein (NHGRI), Shirak:
Toshiyuki and Piero Carninci (RIKEN)
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM11722 row: k column: 13
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BI596681
BI596681.1 GI
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collections (1988)
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603243254F1 NIH_MGC_96 Homo
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                 Similarity
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constructed by M. Brownstein (NIMH/NHGRI, National
Institutes of Health). Note: this is a NIH_MGC Lit
278 c 223 g 172 t
                                                                                                                                                                                                                                                                                    /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:5285892"
/clone_lib="NIH_MGC_96"
                                                                                                                                                                                                                                                    /tissue_type="hypothalamus"
/lab_host="DH10B"
               39.1%;
Score 456.4; DB 13
Pred. No. 9.3e-108;
0; Mismatches 106;
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                                                          Marra,M., Hillier,L., Allen,M., Bowles,M., Dietrich,N., Dubuque,T., Gelsel,S., Kucaba,T., Lacy,M., Le,M., Martin,J., Morris,M., Schellenberg,K., Steptoe,M., Tan,F., Underwood,K., Moore,B., Theising,B., Wylle,T., Lennon,G., Soares,B., Wilson,R. and Waterston,R.
The WashU-HHMI Mouse EST Project
Unpublished (1996)
Contact: Marra M/Mouse EST Project
WashU-HHMI Mouse EST Project
WashIngton University School of MedicineP
4444 Forest Park Parkway, Box 8501, St. Ld
Tel: 314 286 1800
                                                                                                                     Mus musculus

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalla; Eutherla; Rodentia; Sciurognathi; Muridae; Murinae; Mus

1 (bases 1 to 471)
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my18d09.rl Barstead mouse heart
IMAGE:696209 5', mRNA sequence.
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334 GACCAAAATCAACAGCTCCAGCCCTCTGCGCTACGACCGCCAGATTTGGGGAATTTACAGT 393
                                                                                                                                                GGCTGCCCCTTCCTAACCTATGGACTCTTTCAAGTTCACTGAGGGGCCTTGCTC
                                                                                                                                                                                                                                                                                                        GTTGCCGCTGCGGCCAGGGTCTTCCCCTTCGGATCCGCACCCTCCCCTGGGCTCATCTTAA 633
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                                                                                                                                 CCAGATTCCTTAAACTTTCCCTGGCTCCAGGAGCATCACCACACCTCCCTA 471
                                                                                                                                                                                         GGCTGCCCCTTCCTAACCTACTTTGGACTCTTTCAAGTTCACTGAGGGGCCCTTGCTCTC
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5', mrA sequence.
BQ671259
BQ671259.1 GI:21782093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This clone is available royalty-free through LLNL; contact the IMAGE Consortium (info@image.llnl.gov) for further information.
                                                        BQ671259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Seq primer: -28ml3 rev2 ET from Amersham
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fax: 314 286 1810
Email: mouseest@watson.wustl:edu
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/dev_stage="6 weeks"
/lab_host="DH10B"
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/strain="BALB/c"
/db_xref="taxon:10090"
/clone="IMAGE:696209"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /sex="mixed"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone_lib="Barstead mouse
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                      613 CCTCCCCTGGGCTCATCTTAAGGCTGCCCCCTTCCTAACCTACTTTGGACTCTTTCAAGT
                                                           360 CCTCTGCCAGGTGTCTGGGCTGTTGGCCCTGCGGCCAGGGTCCTCCCTGCGGATCCGCAC
                                                                                                                                                                                                                                         433 CTTTGATGAGGGAAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGAACGGTGTGCTGGC
                                                                                                                                                                                                                                                                                                   180 CCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACCTGTACCTGTCACGTGCA
                                                                                553 TTTGTGCCAGGTGTCTGGGCTGTTGCCGCTGCGGCCAGGGTCTTCCCTTCGGATCCGCAC
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                                                                                                                                                                                                                       240 CTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGGATGGTGTGCTGGC
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                                                                                                                                       CCTGCGCTGCCTGGAGGAATTCTCAGCCACTGCGGCCAGTTCCCTCGGGCCCCAGCTCCG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
CDNA Library Preparation: Rubin Laboratory
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
plate: LLCM2456 row: 1 column: 13
High quality sequence stop: 565.
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1 (bases 1 to 963)

NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC) Unpublished (1999)

Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /tissue_type="epidermoid carcinoma, cell line"
/lab_host="DHIOB (phage resistant)"
/note="Organ: salivary gland; Vector: pOTB7; Site_1: XhoI;
Site_2: EcoRI; cDNA made by oligo-dT priming.
Directionally cloned into EcoRI/XhoI sites using the
following 5 adaptor: GGCACGAG(G). Library constructed
by Ling Hong in the laboratory of Gerald M. Rubin
(University of California, Berkeley) using ZAP-cDNA
synthesis kit (Stratagene) and Superscript II RT (Life
Technologies). Note: this is a NIH_MGC Library."
a 326 c 260 g 183 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:6274716"
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Search completed: May 8, 2003, 10:15:12 Job time: 1570.93 secs

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Result
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Maximum Match 100%
Listing first 45 summaries
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                               699.4
628.6
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Copyright (c) 1993 - 2003 Compugen Ltd.
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                        AAX23425
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                                                                                                                                                                                                                                    Description
                                                                    cDNA encoding huma
Human tumour necro
Human cDNA encodin
Homo sapiens tumou
TNF related endoth
Human TREPA (TNF r
                                                                                                                                         Mouse TNRL3 DNA.
Human PRO207 cDNA
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Human gene express	AAZ16147	20	1235	ω. 5	41.4	45
Primer used in the	AAA38186	21	3:20		41.4	C 44
Listeria monocytog	ABQ68833	.24	1164		41.6	43
Human immune syste	ABL33959	24	14006	•	41.8	
Gene encoding a su	AAA10594	21	10732	٠	42.4	c 41
	ABI99656	24	1286		42.4	
	ABQ36769	24	676	٠.	N	39
	ABQ36768	24	676	٠	42.6	c 38
	ABQ36995	24	556	٠	42.6	37
Oligonucleotide fo	ABQ36994	24	556	٠	42.6	c 36
imer used in t	AAA38183	21	320	3.6	42.6	35
tuberculosis	AAZ19228	20	1166	•	42.8	34
	AAZ19440	20	1166	3.7	42.8	ω
	ABQ34341	24	524	3.7	43	32
Oligonucleotide fo	ABQ34340	24	524	3.7	4 3	c 31
_	ABQ71065	24	8604	3.7	43.2	
	AAS34690	22	2272	3.7	43.2	29
Human DNA for a no	AAS34689	22	2272	3.7	43.2	28
Human cDNA sequenc	AAH18456	22	2260	3.7	43.2	27
Human cDNA clone (AAH05001	22	720	3.7	43.2	26
Ser-Pro-Pro-Pro-Pr	ABL51826	24	324	3.7	43.2	25
	ABL34529	24	16167	3.7	43.6	
Human immune syste	ABL33083	24	16167	3.7	ω	c 23
Chemically treated	ABL70254	24	16167		43.6	
Human colon cancer	AAA02484	21	1000	3.8	44.8	
Human gene express	AAZ17263	20	1337		45	20
ncoding endo	ABK94407	24	105325		45.8	19
	AAT94108	19	53577		9	18
polycysti	AAT18551	17	53577	-	σ	17
PKD1 gene	AAT94101	19	53526	4.0	σ	16
	AAD30228	24	53522		46.6	15
	ABN55975	24	65	თ	65	14
	ABK29540	24	195	6.0	69.8	13
Human gene signatu	AAT22190	16	282	7.1	N	12
ssion v	AAS03964	22	898	42.7	498.8	11
Human TNRL3 DNA.	AAX23424	20	1030	44.8	522.8	10

ALIGNMENTS

RESULT 1 18-MAR-1997; 07-AUG-1996; 18-OCT-1996; TRELL; tumour necrosis factor related ligand; tnf; treatment; cancer; autoimmune disease; immune system; stimulation; suppression; graft rejection; ds. (BIOJ) BIOGEN INC. 07-AUG-1997; 12-FEB-1998 WO9805783-A1 Mus musculus Mus musculus tumour necrosis factor related ligand (TRELL) gene 21-JUL-1998 AAV18599; AAV18599 standard; cDNA; 1168 (first entry) 97US-0040820. 96US-0023541. 96US-0028515. 97WO-US13945 /note= "tumour necrosis factor related ligand" Location/Qualifiers BP.

GENEVA FACULTY MEDICINE

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The sequence is that encoding mouse tumour necrosis factor related C1 ligand (TRELL). TRELL or active fragments can be included with a C2 carrier in pharmaceutical compositions to treat cancer, autoimmune C3 diseases or immune responses to tissue grafts, or to stimulate or S1 suppress the immune system. It is useful to screen for TRELL receptors, by labelling with a detectable label and screening C2 compositions for binding. Asgents interfering with TRELL-receptor binding can also be screened for, can then be administered, optionally with interferon- gamma, to induce cell death or treat, suppress or alter immune responses (especially involving human C2 adenocarcinoma cells) involving a signal pathway between TRELL and its receptor. The DNA sequence can be used in gene therapy for TRELL-related disorders in mammals (especially humans), e.g. tumours, C2 autoimmune and inflammatory diseases or inherited genetic disorders, by introducing into cells, and expressing, therapeutically effective amounts of a vector, e.g. a virus comprising a gene encoding TRELL. C1 thus also be of use in the preparation of prepare probes for screening natural/synthetic DNAs for TRELL-encoding sequences
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Best Local
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                                                  CGGTGTGCTGGCCCTGCCTGGGAAGAATTCTCAGCCACAGCAGCAAGCTCTCCCTGG
                                                                                                           CCGAGCTATTGCAGCCCATTATGAGGTTCATCCTCGGCCAGGACAGGATGGAGCACAAGC
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CGGTGTGCTGGCCTGCGCTGCCTGGAAGAATTCTCAGCCACAGCAGCAAGCTCTCCTGG
                                                                                                                                      GCGCTACGACCGCCAGATTGGGGAATTTACAGTCATCAGGGCTGGGCTCTACTACCTGTA
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ilarity 100.0%;
Conservative
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Pred. No. 8.2
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No. 8.2e-307;
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to tissue grafts
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                                                                                                                Tumour necrosis factor receptor; signal transducer molecule; The developmental abnormality; gestational abnormalitity; prostate APO6; APO8; APO9; TNRL-1; TNRL-3; diagnosis; treatment; therapy cytoplasmic domain; immunogen; antibody preparation; breast car
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                                                                                                         apoptosis;
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                                                                                                           mouse;
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                                                                      Location/Qualifiers
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                                                                                                                  preparation; breast carcinoma;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
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            GGGCTCTACTACCTGTACTGTCAGGTGCACTTTGATGAGGGAAAGGCTGTCTACCTGAAG
                                                                             AACAGCTCCAGCCCTCTGCGCTACGACCGCCAGATTGGGGGAATTTACAGTCATCAGGGCT
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                                                                                                                                                                                              CGGAAGGCGCGCCCCGAGCTATTGCAGCCCATTATGAGGTTCATCCTCGGCCAGGA
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26-JUL-1999
15-SEP-1999
15-SEP-1999
                                                                                                                                                                                                                                                                                                                                            PRO207; human; antitumour; tumour; therapy; cytostatlo; breast cancer; ovarian cancer; renal cancer; colorectal cancer; uterine cancer; prostate cancer; lung cancer; bladder cancer; central nervous system cancer; melanoma; leukaemia; neoplasm; si
                                                                                                                                                                                                                                                               mat_peptide
                                                                                                                                                                                                                                                                               sig_peptide
                                                             Ashkenazi AJ, Goddard
Napier MA, Pitti RM,
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                                   P-PSDB;
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                                                                                                                                                                                                                                                                                                                                                                                         PRO207
                                                                                        GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                              standard; cDNA; 1353 BP
                                                                                                                                                                                                                                                                                                                                                                                         cDNA clone DNA30879-1152
                                                                                                        99WO-US05028.
99US-0130232.
99US-0131445.
99US-0134287.
99US-0144758.
99US-01447598.
99WO-US21547.
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178..804
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Novel composition to inhibit neoplastic cell growth or for treating tumor in mammal comprises polypeptides PRO179, PRO207, PRO320, PRO219, PRO221, PRO224, PRO308, PRO301, PRO526, PRO362, PRO356, PRO509 or

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(ATCC 209358) encoding human PRO207 (see AAY95338), which shows

(homology to several members of the tumour necrosis factor family,

cespecially human lymphotoxin (23.48). The cDNA was identified in a

feetal kidney cDNA library following identification of an expressed

sequence tag with homology to human Apo-2 ligand. A claimed method

for inhibiting the growth of a tumour cell comprises exposing the

tumor cell to PRO179, PRO207, PRO2130, PRO219, PRO224,

PRO328, PRO301, PRO526, PRO362, PRO356, PRO509 or PRO866 (see

AAY95337-49), their agonists or chimeric polypeptides incorporating

them. The tumour is especially a cancer selected from breast,

covarian, renal, colorectal, uterine, prostate, lung, bladder and

central nervous system cancer, melanoma and leukaemia. Nucleic

acids encoding PRO179 etc. are used in the recombinant production
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Best Local Sin
Matches 933;
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                                         GGTGTGGATGGGACAGTGAGTGGCTGGGAAGAGACCAAAATCAACAGCTCCAGCCCTCTG
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76.2%;
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Pred. No. 2.5e.
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01-DEC-1999;
01-DEC-1999;
05-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRO polypeptides, agonists, antagonists or anti-PRO antibodies are useful for treating benign or malignant tumours (e.g. renal, kidney, bladder, breast, etc), leukaemias and lymphoid malignancies, other disorders such as neuronal, glial, astrocytal, hypothalamic, glandular, macrophagal, stromal and blastocoelic disorders, inflammatory, immune and angiogenic disorders. The polynucleotide sequences are also useful in gene therapy. ABK40254-ABK40288 encode for the human PRO polypeptides of the invention.
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Watanabe
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P-PSDB; AAU86129.
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99WO-US28313.
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99WO-US28634.
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76.2%;
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Pred. No. 2.6e-160;
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GGATATTAAATAGAATAAGTCATAA
                                                                                                                                                            ----CAGGCACTGAGATGGGCTGGACCTGGTGGCAGGAAGCCAGAGAACCTGGGACTAG
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ABK34881 standard;
ABK34881;
                CDNA;
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08-MAY-2002

(first

entry)

encoding

secreted protein

#19.

RESULT 6
ABK348X
AKY ABK3
XX ABK3
XX ABK3
XX ABK3
XX Huma
DE Huma
XX Huma
KW Vira
KW auto
KW auto
KW auto
KW coag
KW coag
KW myel
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX Homo
XX FR O6-A
PR 06-A
PR 06-A Human; secreted protein; gene; ss; nutritional supplement; haemophilia; viral infection; bacterial infection; fungal infection; diabetes; asthma; autoimmune disorder; rheumatoid arthritis; multiple sclerosis; tumour; autoimmune thyroiditis; allergic reaction; neurodegenerative disease; Alzheimer's disease; Parkinson's disease; liver fibrosis; cancer; ulcer; coagulation disorder; inflammatory disorder; Crohn's disease; incision; tissue regeneration; wound healing; burn; haematopoiesis; myeloid cell deficiency; lymphoid cell deficiency.

Homo sapiens

WO200177288-A2

18-OCT-2001

29-MAR-2001; 2001WO-US10224

06-APR-2000; 2000US-195582F

(GEMY) GENETICS INST INC

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to 592 polynucleotides which have been derived from Ca variety of human tissue sources and which encode novel secreted proteins. The polynucleotides can be used as probes for the identification and isolation of full length cDNA and genomic DNA. The polynucleotides and proteins can also be used as nutritional supplements. The proteins are useful in the treatment of various immune deficiencies and disorders such as viral infections, bacterial infections, fungal infections, autoimmune thyroiditis and diabetes) and allergic reactions cand conditions (e.g. asthma). They are also useful for treating neurodegenerative disease (e.g. Alzhelmer's disease, Parkinson's candisease), liver fibrosis, coagulation disorders (e.g. haemophilia), inflammatory disorders (e.g. Crohn's disease) and tumours. They are also useful for tissue regeneration, for wound healing and in the treatment of burns, incisions and ulcers. The proteins are also useful for regulating haematopolesis and for treating myeloid or lymphoid cell deficiencies. Sequences ABK34863-ABK35454 represent polynucleotides of the invention.
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                                                                                                                                                           CGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTGTAC
                                                                                                                                                                                                                          GGTGTGGACGGGACAGTGAGTGGCTGGGAGGAAGCCAGAATCAACAGCTCCAGCCCTCTG
                                                                                             TGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGGAT
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Pred. No. 1.7e-157;
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                                                                                                                                                graft
                                                                                                                                                            cancer; autoimmune disease; immune system; stimulation; suppression;
                                                                                                                                                                        TRELL; tumour necrosis factor related ligand; tnf; treatment;
                                                                                                                                                                                                  Homo sapiens tumour necrosis factor related ligand (TRELL) gene.
                                                                                                                                                                                                                           21-JUL-1998
                                                                                                                                                                                                                                                    AAV18600
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             12-FEB-1998
                                     WO9805783-A1
                                                                                                                         Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cc ligand (TRELL). TRELL or active fragments can be included with a compositions to treat cancer, autoimmune classes or immune responses to tissue grafts, or to stimulate or compositions the immune system. It is useful to screen for TRELL creceptors, by labelling with a detectable label and screening cc compositions for binding. Agents interfering with TRELL-receptor binding can also be screened for, can then be administered, optionally with interferon- gamma, to induce cell death or treat, suppress or alter immune responses (especially involving human adenocarcinoma cells) involving a signal pathway between TRELL and its receptor. The DNA sequence can be used in gene therapy for TRELL-related disorders in mammals (especially humans), e.g. tumours, autoimune and inflammatory diseases or inherited genetic disorders, by introducing into cells, and expressing, therapeutically effective amounts of a vector, e.g. a virus comprising a gene encoding TRELL. It may also be of use in the preparation of prepare probes for screening natural/synthetic DNAs for TRELL-encoding sequences and for antisense therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity Matches 906; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
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07-AUG-1996;
18-OCT-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1373 BP; 247 A; 462 C; 394 G; 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 2; Pages 48-50; 69pp; English.
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/product- "TREPA"

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The TNF-related endothelium proliferative agent (TREPA), or its activators or agonists, are used to treat a deficit of TREPA, e.g. to CC promote wound healing or tissue grafting, by promoting vascularisation, CC also to induce apoptosis for treating cancer and eliminating autoreactive Teells, as an adjunct to cancer chemotherapy or antiviral treatment. CC TREPA peptides can also be used to target cytotoxic agents or for CC affinity isolation of the corresponding receptor, the nucleic acid for CC which can be used to transform tumour cells to render them more CC responsive to TREPA and to screen for TREPA mimics. CC RIDOZYMES, antisense RNA, antibodies or peptides, are used to treat CC TREPA-associated diseases, e.g. tumours and metastases (by inhibiting CC conditions involving abnormal stimulation of epithelial cells (e.g. conditions), for birth control (inhibiting ovulation and placental CC formation) or other angiogenic conditions (e.g. ulcers).
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Detecting nucleic acid encoding TREPA - useful for diagnosis treatment of autoimmune disease, tumours and inflammation
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12-FEB-1997;
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                                                          GGTGTGGATGGGACAGTGAGTGGCTGGGAAGAGACCAAAATCAACAGCTCCAGCCCTCTG
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                 TGTCAGGTGCACTTTGATGAGGGAAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGAAC
                                           CGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTGTAC
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                                                                                                                                                          AGAGCGATCGCAGCCCATTATGAAGTTCATCCACGACCTGGACAGGACGGAGCGCAGGCA
                                                                                                                                                                                      CGAGCTATTGCAGCCCATTATGAGGTTCATCCTCGGCCAGGACAGGATGGAGCACAAGCA
                                                                                                                                                                                                                   CTGAACCGACTAGTTCGGCCTCGAAGAAGTGCACCTAAAGGCCGGAAAACACGGGCTCGA
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97US-0798692.
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75.2%;
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                                                                                                             grafting; vulnerary;
                                                                                                                          Human; tumour necrosis factor; TNF; angiogenesis; wound healing;
TREPA; TNF related endothelium proliferative agent; tumour; meta
                                                                                                                                                                Human TREPA
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                                                                                                                                                                                                                                                                                                           CCTGTGGATTTTTAAAACAGATATTATTT
                                                                                                                                                                                                                                                                                                                                   CCTGTGGATTTTGAAAAGATACTATTTT
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                                                                                                                                                                (TNF related endothelium proliferative agent) cDNA.
                                                                                                                                                                                         (first entry)
    /*tag= a
/product= "Human TREPA
~~~liferative agent)"
                                                             Location/Qualifiers
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                        (TNF related endothelium
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Best Local S
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wiley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Inducing angiogenesis in mammal at desired sites for promoting wound healing, by administering soluble fragment of extracellular domain of tumor necrosis factor related endothelium proliferative agent protein
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10-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1236
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               GGTGTGCTGGCCTGCCTGCCTGGAAGAATTCTCAGCCACAGCAGCAAGCTCTCCTGGG
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GGTGTGCCCTGCGCTGCCTGCAGGAATTCTCAGCCACTGCGAGTTCCCTCGGG
                                                           TGTCAGGTGCACTTTGATGAGGGGAAAGGCTGTCTACCTTGAAGCTTGGACTTGCTGGTGAAC
                                                                                              CGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGGCTCTACTACCTGTAC
                                                                                                           TTGGAACAACTAGTCCGGCCTCGAAGAAGTGCTCCTAAAGGCCGGAAGGCGCCGCCTCGC
                                                                                                                                                                                                                                                                                              GACCAGGACCCGTCGGAACTGAATCCCCAGACAGAAGAAAGCCAAGGATCCTGCGCCTTTC
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                                                                                                                                                                                                AGAGCGATCGCAGCCCATTATGAAGTTCATCCACGACCTGGACAGGACGGAGCGCAGGCA
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DB; AAE00891.
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98US-0021706
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75.2%;
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  preneoplastic condition; myocardial angiogenesis; wound granulation; scleroderma; vascular adhesion; telangiectasia; ischaemia; human; atherosclerotic plaque neovascularisation; coronary atherosclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAS03964 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                       "Fusion protein comprising a growth hormone leader, a leucine zipper multimerisation
                                                                                                                                                                                                                                                                                                                                                                       domain, and human TWEAK extracellular domain"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CC pDC409-LZ-TWEAK, which encodes a fusion protein comprising a growth CC hormone leader, a leucine zipper multimerisation domain, and the CC extracellular domain of human TWEAK. The fusion protein was used in CC the isolation of human TWEAK receptor (TWEAKR)-expressing clones CC from a COS cell human cDNA library. The TWEAK protein is a CC member of the tumour necrosis factor (TNF) family and induces CC angiogenesis. TWEAKR may therefore be used to screen for and develop CC TWEAKR agonists and antagonists for the modulation of angiogenesis, to be used in the treatment and diagnosis of human disease. The disorders CC mediated by angiogenesis include ocular disorders characterised by ocular cretinoblastoma, retinopathy of prematurity, retrolental fibroplasia, CC rebeosis, uveitis, macular degeneration and corneal graft neovascularisation, and inflammatory diseases such as arthritis, CC remeatatic conditions such as sarcommas and carcinomas, benign tumours and correceplastic conditions, myocardial angiogenesis, heemophilic joints, CC scleroderma, vascular adhesions, atherosclerotic plaque concorners and inclement and inclement of premeturic plaque concorners and inclement of the properties of the conditions of the cond
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                                                 GTGGATGGTGTGCCTGGCCTGCCTGCAGGAATTCTCAGCCACTGCGGCCAGTTCC
                                                                                         GTGAACGGTGTGCCTGCCCTGCCTGCAAGAATTCTCAGCCACAGCAGCAAGCTCT
                                                                                                                                     CTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTG
                                                                                                                                                               CTGTACTGTCAGGTGCACTTTGATGAGGGAAAGGCTGTCTACCTGAAGCTGGACTTGCTG
                                                                                                                                                                                                                            CCTCTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTAC
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87.0%;
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969 CAGGCACTGAGATGGGCTGGACCTG-GTGGCAGGAAGCCAGAGAACCTGGGACTAGGCCA 1027

Matches Query Match

Local 158;

Similarity

7.1%; 80.6%;

Score 82.8; Pred. No. 1 Mismatches

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Indels Length

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Sequence 282 BP; 80 A; 62 C; 69 G; 66 T;

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                                                                                                       A single-stranded DNA (or its complementary strand or the corresp. double-stranded DNA) which comprises one of the 7837 "GS" sequences given in AAT19001-T26837 and which is able to hybridise to part of human genomic DNA, cDNA or mRNA is claimed. The GS (Gene Signature) sequences were obtained from 3'-directed cDNA libraries prepared from various human tissues; synthesis of cDNA was initiated from the 3'-end of mRNA by using poly(T) as the sole primer. Since the 3'-untranslated sequence is unique to a particular mRNAs species, almost all the 3'-oriented cDNAs hybridise with specific mRNAs. Each library is constructed so as to reflect accurately the relative abundance of
                           is constructed so as to reflect accurately the relative abundance of different mRNAs in the particular tissue from which it was derived. The appearance frequency of a given GS in a CDNA library can be determined (esp. using primers and probes derived from the GS sequences) as a means of diagnosing abnormal cell function or for recognising different cell types.
                                                                                                                                                                                                                                                                                            Claim 1; Page 1067; 2245pp; Japanese.
                                                                                                                                                                                                                                                                                                                                       Identifying gene signatures in 3'-directed human cDNA library for diagnosis of abnormal cell function, by preparing cDNA that reflects relative abundance of corresp. mRNA in specific human
                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1995-206931/27.
                                                                                                                                                                                                                                                                                                                                                                                                                                           Matsubara K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gene signature; messenger RNA; mRNA; relative abundance; frequency human; cloning; mapping; non-biased library; diagnosis; detection; cell typing; abnormal cell function; ss.
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       CC The invention relates to an isolated polynucleotide (I) encoding a CC polypeptide (II) comprising a portion of a colon tumour protein. A new CC oligonucleotide (III) that hybridises to (I) is useful for CC determining the presence of a cancer in a patient. (II) or antigen CC expanding T cells expressing (I) are useful for stimulating and/or CC expanding T cells specific for a tumour protein, by contacting T cells (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), (II), 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New isolated polynucleotide encoding a polypeptide comprising of colon tumour protein, for detection, diagnosis and therapy
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22-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 1; Page 133; 211pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 colon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2002-098052/13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Meagher MJ, King GE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         07-JUN-2001; 2001WO-US18574.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; colon adenocarcinoma; colon cancer; tumour; gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Colon adenocarcinoma-specific cDNA #66
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     colon tumour protein,
lon cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TATTAAAGAGAATAAA 1153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TATTAAATAGAATAAA 282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGATTTTGAAA--AGATACTATTTTTTATTATTGTGACAAAATGTT----AAATGGA 1137
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2000US-252614P.
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RESULT 14
ABN55975
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         CC several oligonucleotides, each capable of hybridising selectively to a set of messenger RNAs transcribed from a given transcription unit of C the genome, which encodes one or more messenger RNA splice variants. The oligonucleotide libraries are useful for detecting mRNAs from a companient of the oligonucleotide libraries are useful for detecting mRNAs from a companient of the oligonucleotide services are useful for detecting mRNAs from a companient of the corresponding transcriptome, and in the corresponding transcriptome, and in the corresponding transcriptome, and in the corresponding transcriptome, and in the corresponding transcriptome, and in the corresponding transcriptome, and in the corresponding transcriptome under a condition of the corresponding transcriptome under a condition of tissue and pathological state, and so allowing the corresponding to detect the corresponding transcriptome of the corresponding transcriptome of the corresponding transcriptome of the corresponding transcriptome of the corresponding transcriptome of the corresponding transcriptome of the corresponding transcriptome of a patient suffering transcriptome of a patient suffering condition; to detect developmental specific genes; and to detect RNA transcriptome of a patient suffering condition applice variants of a transcriptome of a patient suffering transcriptome of a patient suffering condition.
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1029
                                                                                                                                                                                                                                                                                messenger RNAs that populate a (sub-)transcriptome, where the (sub-)transcriptome comprises messenger RNAs transcribed from multiple transcription units that populate a genome. The library comprises
                                                                                                                                                                                                                                                                                                                                                                         Example 1;
                                                                                                                                                                                                                                                                                                                                                                                                            developmental-specific genes
                                                                                                                                                                                                                                                                                                                                                                                                                         New oligonucleotide libraries comprising oligonucleotides which selectively hybridize to mRNAs transcribed from a transcription a genome, useful for detecting tissue-, pathology-, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2002-257383/30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Shoshan A, Wasserman A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-JUL-2000;
02-MAY-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; mouse; rat; splice transcript; detection; RNA transcript; splice variant; transcriptome; oligonucleotide library; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mouse spliced transcript detection oligonucleotide SEQ ID NO:28723.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABN55975 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-JUL-2001; 2001WO-IB01903
                                                                                                                                                                                                                                                                                                                                      The present invention describes oligonucleotide libraries
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                                                                                                                                                                                                                                                                                                                                                                       SEQ ID 28723; 47pp; English.
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2001US-287724P
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83.5%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mintz E,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 69.8;
Pred. No. 5.
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are used in
                                                                                                                                                                                                                                                                                                                                        detecting
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RESULT 15
AAD30228
CC The present invention relates to compositions and methods useful for the CC identification and detection of polycystic kidney disease (PKD1) gene CC mutations. The invention also relates to primers comprising a 5' region CC having a sequence that selectively hybridises to a PKD1 gene sequence CC and optionally, to a PKD1 homologue sequence and an adjacent 3' region CC having a sequence that selectively hybridises to a PKD1 gene sequence CC and not to a PKD1 homologue sequence. Primer pairs of the invention are CC useful for detecting the presence or absence of a mutation in a PKD1 CC polynucleotide in a sample, for identifying a subject at risk for a CC PKD1-associated disorder such as autosomal dominant polycystic kidney CC disease (ADPKD) or acquired cystic disease and for diagnosing a PKD1-CC amplifying a region of a PKD1 gene. PKD1 DNA fragments are useful CC amplifying a region of a PKD1 gene. PKD1 DNA fragments are useful CC amplifying a region of a PKD1 gene. PKD1 DNA fragments are useful CC amplification assays of biological samples to detect abnormalities.
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                                                                                                                                                                                                                                                                                                                                                                                                            Novel primer for diagnosing polycystic kidney disease-associated disorder, comprises regions having sequence that selectively hybridizes to polycystic kidney disease gene sequence -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1090 TTGAA 1094
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N.B. The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                        to polycystic kidney disease gene sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; PKD1 gene; autosomal dominant polycystic kidney disease; acquired cystic disease; transgenic animal; chromosome 16; ds.
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                                                                                                                                                                                                                                                                                                                                                                      Claim 20; Page 127-156; 192pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2002-179805/23.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Germino GG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-JUL-2000; 2000US-218261P
13-APR-2001; 2001US-283691P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-JUL-2001; 2001WO-US22035
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 65 BP; 14 A; 15 C; 21 G; 15 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (UYJO ) UNIV JOHNS HOPKINS SCHOOL MEDICINE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-MAY-2002 (first entry)
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mes 65; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Watnick TJ, Phakdeekitcharoen
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100.0%; Pr
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Pred. No. 6.6e-0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
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Copyright (c) 1993 - 2003 Compugen Ltd.
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Maximum DB seq length: 2000000000 Title: Perfect score: Searched: Scoring table: Run on: OM nucleic - nucleic search, using sw model Total number of hits satisfying chosen parameters: Sequence: 1168 IDENTITY_NUC Gapext 1.0 May 2054640 seqs, 14551402878 residues US-09-245-198A-1 GenEmbl:* ggtgctgagcctgggcctgg.....ataaatcatgatttctcttc 1168 gb_ba:* gb_htg:* em_htg_hum:*
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Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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ALIGNMENTS

TITLE	AUTHORS	SHERRENCE	ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION	DEFINITION	LOCUS	RESULT 1 AF030100
Hession, C., Garcia, I. and Browning, J.L. TWEAK, a new secreted ligand in the tumor necrosis factor family	Chicheportiche, Y., Bourdon, P.R., Xu, H., Hsu, Y.M., Scott, H.,	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.	Mus musculus Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	Mus musculus.	•	AF030100.1 GI:2707220	AF030100	Mus musculus TWEAK mRNA, partial cds.	AF030100 1168 bp mRNA linear ROD 20-DEC-199	

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Best Local Similarity
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Chicheportiche,Y., Bixler,S., Tizard,R. and Browning,J.
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PELNPQTEESQDVVPFLEQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGV
DGTVSGWEETKINSSSPLRYDBQIGEETVIRACLYYLYCQVHFDEGKAYYLKLDLLVN
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/db_xref="GI:2707221"
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Metzker, M.L., Lewis, L.R., Hume, J., Edwards, C., Harris, C.,

Netzker, M.L., Lewis, L.R., Hume, J., Edwards, C., Harris, C.,

Dederich, D., Thomas, S., Okwuonu, G., Carlock, C., Garner, T.,

Addison, S., Pace, A., Williams, G., Bonnin, D., Brooks, A., Brown, J.,

Buhay, C., Bunac, C., Burkett, C., Chacko, J., Chen, G., Chen, Z.,

Cox, C., Davis, C., Delgado, O., Ding, Y., Dugan-Rocha, S.,

Fernandez, C., Ferraguto, D., Forcum-Tansey, J., Gill, R.,

Gorrell, J.H., Gunaratne, P., Haller, G., Hernandez, J., Hogues, M.,

Gorrell, J.H., Gunaratne, P., Haller, G., Hernandez, J., Hogues, M.,

Hosak, H., Hou, X., Huber, J., Jackson, L., Jia, Y., Kelly, J., Kelly, J., Kelly, J.,

Kovar, C., Liu, J., Liu, W., Loulseged, H., Lozado, R.J., Martin, R.,

Massey, E., McLeod, M. P., Mei, G., Moore, S., Morgan, M., Morris, S.,

Neal, D., Nelson, A., Nguyen, R., Nguyen, N., Oguh, M., Parish, B.,

Perez, L., Reiter, D., Say, J., Shen, H., Vasquez, L., Watlington, S.,

Williamson, A., Wrensford, G., Zhou, X., Bouck, J., Hodgson, A.,

Minno, D. M., Wicke, M., Scheur, S., Shou, X., Bouck, J., Hodgson, A.,

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AC069459.23 GI:14547768
TTO: UMCS PHASEI; HTGS_DRAFT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus chromosome 11 clone RP23-168P5, SEQUENCE, 7 unordered pieces
                      2 (bases 1 to 203083)
Worley, K.C.
                                                                   Unpublished
                                                                                         Worley, K. and Gibbs, R. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                         Muzny, D.M., Rives, M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus.
Submission
                                                                                                                                           Scherer, S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HTGS_FULLTOP
                                                                                                                                         Sodergren, E.,
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                                                                                                                                      Hodgson, A., Weinstock, G.,
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ATCCGCACCCTCCCTGGGCTCATCTTAAGGCTGCCCCCTTCCTAACCTACTTTGGACTC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html).

NOTE: This is a 'vorking draft' sequence. It currently consists of 7 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown.

This record will be updated with the finished sequence
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Consensus quality: 212648 bases at least Q40 consensus quality: 218902 bases at least Q30 consensus quality: 222384 bases at least Q30 consensus quality: 222384 bases at least Q30 programs quality: 222384 bases quality: 222
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----- Summary Statistics
Sequencing vector: M13; L08821
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Contact: hgsc-help@bcm.tmc.edu
------ Project Information
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This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given
                                                                                                                                                                       During sequence assembly data is compared from overlapping clones. Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.
                                                                                                                                                                                                                                                                                                   Submitted (17-NOV-2001) Wellcome Trust Sanger Institute, Hinxton Cambridgeshire, CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk non Nov 20, 2001 this sequence version replaced gi:16605765.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mouse DNA sequence from clone complete sequence. AL603707
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/clone_lib="RPCI-23"
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             CCCCAGCTCCGTTTGTGCCAGGTGTCTGGGCTGTTGCCGCTGCGGCCAGGGTCTTCCCTT
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Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Hot
1 (bases 1 to 1353)
Ashkenazi,A.J., Goddard,A., Godowski,P.J., Gurney,A.L.,
Hillan,K.J., Marsters,S.A., Pan,J., Pitti,R.M., Roy,M.A
Stone,D.M., Watanabe,C.K. and Wood,W.I.
Compositions and methods for the treatment of tumour
Patent: WO 0153486-A 3 26-JUL-2001;
Genentech, Inc. (US)
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Pred. No. 7.5e-155;
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Direct Submission
Submitted (25-MAR-1998) Molecular Oncology,
South San Francisco, CA 94080, USA
Location/Qualifiers
                                            Marsters, S.A., Sheridan, J.P., Ashkenazi, A.
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Homo sapiens Apo3/DR3 ligand
AF055872
                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; 1 (bases 1 to 1368)
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/product="Apo3/DR3 ligand"
/protein_id="Apo3/DR3 ligand"
/protein_id="AAC39724.1"
/db_xref="GI:3108231"
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GSRASLSAQEEPAQEELVALEDODFVSGWEEBARINSSSPLRYNROIGEFIVTRAGL
YYLYCOVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLIAL
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Chicheportiche, Y., Bourdon, P.R., Xu, H., Hsu, Y.M., Stession, C., Garcia, I. and Browning, J.L.
TWERK, a new secreted ligand in the tumor necrosis; that weakly induces apoptosis
J. Biol. Chem. 272 (51), 32401-32410 (1997)
                                                                                     Submitted (14-OCT-1997) Cell Biology, Cambridge, MA 02142, USA
                                                                                                        Bourdon, P., Hession, C., Tizard, R. Direct Submission
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            /tissue_type="tonsil"
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/db_xref="taxon:9606"
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GSRASLSAQEPAQEELVAEEDODPSELMPQTEESQDPAPFLNKLVRPRRSAPKGRKTR
ARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGL
YYLYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLAL
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RESULT 8
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DEFINITION
RATTUS norvegicus clone CH230-320N23, *** SEQUENCING IN PROGRESS
ACCESSION
AC119115
VERSION
AC119115
VERSION
AC119115 138792 bp DNA linear HTG 18-JUL-20
New Sequencing in Progress
ACCESSION
AC119115 2 GI:21746718
KEYWORDS
SOURCE
ORGANISM
FIG: HTGS_PHASE1.
SOURCE
ORGANISM
RATTUS norvegicus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;

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REFERENCE
AUTHORS
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Direct Submission
Submitted (25-APR-2002) Human Goof Molecular and Human Genetics
Baylor Plaza, Houston, TX 77030
3 (bases 1 to 138792)
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Sequencing vector: Plasmid;
Chemistry: Dye-terminator Big Dye: 100% of reads
Assembly program: Phrap; version 0.990329
Consensus quality: 112720 bases at least Q30
Consensus quality: 11666 bases at least Q30
Consensus quality: 119165 bases at least Q20
                                                                                                                                                                                                                                                                                                                                                                            Center project name: GUXG
Center clone name: CH230-320N23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Web site: http://www.hgsc.bcm.tmc.edu/
Contact: hgsc-help@bcm.tmc.edu
Project Information
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Web site:
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Genetics, Baylor College of Medicine, One
TX 77030, USA
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NOTE: Estimated insert size may differ from sequence length
(see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html).

NOTE: This is a "working draft' sequence. It currently
consists of 32 contigs. The true order of the pieces
is not known and their order in this sequence record is
arbitrary. Gaps between the contigs are represented as
runs of N, but the exact sizes of the gaps are unknown.

This record will be updated with the finished sequence
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/db_xref="taxon:10116"
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RINSSSPLRYNRQIGEFIVTRAGLYXLYCQVHFDEGKAVYLKLDLLVDGVLALRCLEE
ESATAAASSLGPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH*
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BC019047
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                                                                     Best Local Similarity Matches 685; Conserv
                                                                                                               Query Match
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                                  298
AGCAGGTGTGGATGGGACAGTGAGTGAGTGGCTGGGAAGAGACCAAAAATCAACAGCTCCAGCCC 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Series: IRAL Plate: 30 Row: p Column: 5
This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 4507596. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: nisc_mgc@nhgri.nih.gov
Shevchenko,Y., Wetherby,K.D., Beckstrom-Sternberg,S.M.,
Benjamin,B., Blakesley,R.W., Bouffard,G.G., Brinkley,C., Brooks,S.,
Dietrich,N.L., Guan,X., Gupta,J., Ho,S.-L., Karlins,E., Legaspi,R.,
Lim,M., Maduro,Q.L., Masiello,C., Mastrian,S.D., McCloskey,J.C.,
McDowell,J., Pearson,R., Snyder,B., Stantripop,S., Thomas,P.J.,
Tiongson,E.E., Touchman,J.W., Tsurgeon,C., Vogt,J.L., Walker,M.A.,
Zhang,L.-H. and Green,E.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cDNA Library Preparation: Rubin Laboratory cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: National Institutes of Health Intramural
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (07-DEC-2001) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA Sequencing by: Nation Sequencing Center (NISC), Gaithersburg, Maryland;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NIH-MGC Project URL: http://mgc.nci.nih.gov
Contact: MGC help desk
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Louis Staudt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Web site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Strausberg,R
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/db_xref="taxon:9606"
/clone="MGC:20669 IMAGE:4766071"
/tissue_type="Primary B-Cells from
/clone_lib="NIH_MGC_48"
/lab_host="DH10B-R"
                                                                                                                                                                              ď
                                                                                                                                                                       /codon_start=1
/product="Similar to tumor
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73.78;
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Similar to tumor necrosis
member 12, clone MGC:20669
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Pred. No. 6.1e-97;
0; Mismatches 171;
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VERSION KEYWORDS

unordered pieces. AC127470 AC127470.1 GI:21 HTG; HTGS_PHASE1;

GI:21886866

HTGS_DRAFT

ORGANISM

HTGS_PHASE1; panzee. troglodytes

ACCESSION

RESULT 11 AC127470

DEFINITION

Pan troglodytes clone RP43-145D13,

WORKING

linear HTG 17 DRAFT SEQUENCE,

17-JUL-2002

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--TCCCTGTGGAATTTTGAAA--AGATACTATTTTTATTATTATTGTGACAAAATGT---T 1130
                                                                                                     CTAGGCCAGGAGTTCCCAAATGTGAGGGGCGAGAAACAA-GACAAGCTCCTCCCTTGAGA 1546
                                                                                                                                                        GCCACAGACCCCCAGGGCATTGTGTTCACTGTACTCTGTGGGCAAGGATGGGTCCAGAAG 1427
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                                                    CTAGGCCAGAAGTTCCCAACTGTGAGGGGGAAGAGCTGGGGGACAAGCTCCTCCCTGGA-- 1077
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
Submitted (17-UUL-2002) NIH Intramural Sequencing
Grovemont Circle, Gaithersburg, MD 20877, USA
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Mammalla; Eutherla; Primates; Catarrhini; Hominidae; Pan.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NOTE: This is a 'working draft' sequence. It currently consists of 15 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        as soon as it is available be preserved.
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Center clone name: 145D13
Center clone name: 145D13
Center clone name: 145D13
Sequencing vector: plasmid; n/a; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Assembly program: Phrap; version 0.990319
Consensus quality: 20329 bases at least 040
Consensus quality: 205865 bases at least 030
Consensus quality: 205181 bases at least 020
Consensus quality: 205181 bases at least 020
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30151
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Insert size: 214395; sum-of-contiqs
Quality coverage: 7.30x in Q20 bases; agarose-fp
Quality coverage: 6.47x in Q20 bases; sum-of-conf
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                                                                                                                                                                                                                                                Matches 581;
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                                                  199753 -- CCTCGACAGCTCTCTGGGCACCCCGGTCTCCTCTGCCCCAGCCTCAGCTGCTTTTGCT
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54859 c 53752 g 53513 t
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89623. .105537
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3694. .8001
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/db_xref="taxon:9598"
/clone="RP43-145D13"
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L5740. .24775
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21298. .138883
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166802: contig of 27819 bp in
166902: gap of unknown length
215795: contig of 48893 bp in
action/Qualifiers
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71.7%;
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Pred. No. 7.9e-69;
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REFERENCE
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                                                                                                                                                                                                                JOURNAL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
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                                                                                                                                                                                                                                                  Birren, B., Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, M., Bathan, J., Barna, N., Beckerly, R., Boguslavkiy, L., Boukhgalter, B., Brown, A., Castle, A., Colangelo, M., Collins, S., Collymore, A., Cocke, P., DeArellano, K., Dewar, K., Domino, M., Donelan, L., Doyle, M., Fitzhigh, W., Forrest, C., Funke, R., Gage, D., Fitzhigh, W., Forrest, C., Funke, R., Gage, D., Gardyna, S., Grant, G., Hagos, B., Heaford, A., Horton, L., Galagan, J., Gardyna, S., Grant, G., Hagos, B., Heaford, A., Horton, L., Lehbczky, J., Lieu, C., Locke, K., Macdonald, P., Marquis, N., McEwan, P., McGurk, A., McKernan, K., McLaughlin, J., Meldrim, J., Morrow, J., Naylor, J., Norman, C. H., O'Connor, T., O'Donnell, P., Peterson, K., Pollara, V., Riley, R., Roy, A., Santos, R., Severy, P., Stange-Thomann, N., Stojanovic, N., Subramanian, A., Talamas, J., Terfaye, S., Tirrell, A., Vassillev, H., Vo, A., Wheeler, J., Wu, X., Wyman, D., Ye, W.J., Zimmer, A. and Zody, M.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAGGAGTTCCCAAATGTGAGGGGGGGAGAAACAA-GACAAGCTCCTCCCTTGAGAATTCCC
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                                                Birren, B., Nusbaum, C., Lander, E., Ali, A., Allen, N., Anderson
Barna, N., Bastien, V., Bloom, T., Boguslavkiy, L., Boukhgalter,
Camarata, J., Chang, J., Chazaro, B., Choepel, Y., Collymore, A.,
Cook, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge
                                                                                                                                                Submitted (08-DEC-1999) Whitehead Institute/MIT Center Research, 320 Charles Street, Cambridge, MA 02141, USA (bases I to 177703)
  Gardyna,S.,
                                                                                                                                                                                                                                          Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Birren, B., Nusbaum, C. and Lander, E. Homo sapiens chromosome, clone RP11-186B7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mammalia; Eutheria; Pr
1 (bases 1 to 177703)
Birren,B., Nusbaum,C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae
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                          Ferreira, P.,
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RP11-186B7, ***
Graham, L.,
FitzGerald,M., Gage,D., Galagan,J.,
Graham,L., Grand-Pierre,N., Hagos,B.,
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                                                                                                                                Anderson, S.,
                                                  Dodge, S.
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CAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGGATGGT
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Smit, A.F.A. & Green, P. (1996-1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Roman, J., Roy, A., Schauer, S., Schupback, R., Seaman, S., Severy, P., Smith, C., Spencer, B., Stange-Thomann, N., Stojanovic, N., Talamas, J., Smith, C., Spencer, J., Topham, K., Travers, M., Vassillev, H., Vissillev, H., Vissillev, H., Vissillev, R., Vissillev, R., Vissillev, R., Vissillev, R., Vissillev, R., Vissillev, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Voll, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Voll, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Voll, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Voll, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Voll, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Voll, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Voll, R., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Voll, R., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Wilson, B., Wu, X., Wyman, D., Young, G., Zainoun, J., Wyman, D., Wyman, D., Wyman, D., Young, G., Zainoun, J., Wyman, D., Young, G., Zainoun, J., Wyman, D., Wyman
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                                                                                                                                                                                              Similarity
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58378 65804: contig of 7427 bp in len

65805 65904: gap of 100 bp

65905 79793: contig of 13889 bp in le

79794 79893: gap of 100 bp

79894 99493: contig of 19600 bp in le

99494 99593: gap of 100 bp

99594 111049: contig of 11456 bp in le

111050 1111149: gap of
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48646 48745: gap of 100 bp

48746 58277: contig of 9532 bp in length

58278 58377: gap of 100 bp

58378 65804: contig of 7427 bp in length
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135020: contig of 13871 k
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, Macdonald,P., Major,J., Matthews,C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ap of 100 bp contig of 24249 b
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Pred. No. 8.7e-69;
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               Akhter, N., Antonellis, A., Ayele, K., Beckstrom-Sternberg, S.M., Benjamin, B., Blakesley, R.W., Bouffard, G.G., Breen, K., Brinkley, C., Brooks, S., Dietrich, N.L., Granite, S., Guan, X., Gupta, J., Haghighi, P., Hansen, N., Ho, S.-L., Idol, J.R., Karlins, E., Laric, P., Lee-Lin, S.-Q., Legaspi, R., Maduro, Q.L., Maduro, V.B., Margulies, E.H., Masiello, C., Maskeri, B., Mastrian, S.D., McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R.,
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Submitted (10-JUL-2002) NIH Intramural Sequencing Center, Grovemont Circle, Gaithersburg, MD 20877, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Thomas,P.J., Touchman,J.W., Tsurgeon,C., Vogt,J.L., Walker,M.A., Wetherby,K.D., Wiggins,L., Young,A., Zhang,L.-H. and Green,E.D. NISC Comparative Sequencing Initiative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NOTE: This is a 'working draft' sequence. It currently consists of 12 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
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Center clone name: 045D24
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clone_end:T7
                                                                                             /db_xref="taxon:9913"
/clone="RP42-45D24"
/clone_lib="RP42"
                                                                                                                                                                                             Location/Qualifiers
                    /note="assembly_fragment
                                                         note="assembly_fragment"
                                                                                                                                                         /organism="Bos taurus"
                                                                                                                                                                                                                                  56690: gap of unknown length
73769: contig of 17079 bp in 1
73869: gap of unknown length
90859: contig of 16990 bp in 1
90959: gap of unknown length
111428: contig of 20469 bp in 1
111528: gap of unknown length
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: contig of 3429 |
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contig
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Best Local
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hes 501; Conserv
     GGA---
                                                       TGGGACTAGGCCAGAAGTTCCCCAACTGTGAGGGGGAAGAGCTGGGGGACAAGCTCCCT
                                                                                                                                          TTGACTTTGTGCACCAGGCACTGAGATGGGCTGGACCTGGTGGCAGGAAGCCAGAGAACC
                                                                                                                                                                                                            AGCTCTTCCCACCTCCAGCTCTCC--ACCTCACTAGCTCCCCAGCCCCATTTATCTCCTG
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                                                                                                                                                                                                                                                                                                                                                                                         CCGCTCTCTGAGCACCCCTGTCCCCCTCTGCCCCACCCTGAGCTGCTCCTCCCCCAGACCT
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-TCCCTGTGGATTTTGAAA---AGATACTATTTTTATTATTATTGTGACAAAATG
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8536. .15799
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Pred. No. 4.9e-62;
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AUTHORS
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SOURCE
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Sus scrofa clone RP44-436K21,
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                                                                                                                                                                                     NOTE: This is a 'working draft' sequence. It currently consists of 10 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
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Consensus quality: 164120 bases at least Q40
Consensus quality: 168085 bases at least Q30
Consensus quality: 170767 bases at least Q20
Insert size: 169000; agarose-fp
Insert size: 176655; sum-of-contigs
Quality coverage: 4.78x in Q20 bases; agarose-fp
Quality coverage: 4.57x in Q20 bases; sum-of-cont
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Center clone name: 436K21
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                                                    3460: contig of 3460 a 3560; gap of unknown 6869: contig of 3309 t 6969: gap of unknown 13465: contig of 6496 t
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        unknown
of 7736
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Best Local Similarity
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                                                                                                                 CTCCCTGCGGATCCGCACCCTCCCCTGGGCCCACCTCAAGGCTGCCCCCTTCCTCACCTA
                  CTTTGGACTCTTTCAAGTTCACTGAGGGGCCTTGCTCCCCAGATTCCTTAAACTTTCCC
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/note="assembly_fragment
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/note-"assembly_fragment
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/note="assembly_fragment"
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/db_xref="taxon:9823"
/clone="RP44-436K21"
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1: contig of 11235 bp in 1
4: gap of unknown length
4: contig of 13570 bp in 1
4: gap of unknown length
10: contig of 17846 bp in 1
0: gap of unknown length
5: gap of unknown length
5: gap of unknown length
5: contig of 38395 bp in 1
6: contig of 62290 bp in 1
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                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
Submitted (10-UUL-2002) NIH Intramural Sequencing
Grovemont Circle, Gaithersburg, MD 20877, USA
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Haghighi, P., Hansen, N., Ho, S.-L., Ifol, J.R., Karlins, E., Laric, P.,
Lee-Lin, S.-Q., Legaspi, R., Maduro, O.L., Maduro, V.B.,
Margulies, E.H., Masiello, C., Maskeri, B., Mastrian, S.D.,
McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R.,
Portnoy, M.E., Prasad, A., Schueler, M.G., Stantripop, S., Thomas, J.W.,
Thomas, P.J., Touchman, J.W., Tsurgeon, C., Vogt, J.L., Walker, M.A.,
Wetherby, K.D., Wiggins, L., Young, A., Zhang, L.-H. and Green, E.D.
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AC126925
AC126925.1 GI:21724102
HTG; HTGS_PHASE1; HTGS_DRAFT
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Benjamin,B., Blakesley,R.W., Bouffard,G.G., Breen,K., Brir
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Center project name: cwp
Center clone name: 332511
Center clone name: 332511
Sequencing vector: plasmid; n/a; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Assembly program: Phrap; version 0.990319
Consensus quality: 148712 bases at least Q40
Consensus quality: 151471 bases at least Q30
                                                                                                                                                                                                                  Web site: http://www.nisc.nih.gov
Contact: nisc_zoo@nhgri.nih.gov
------ Project Information
                                                                                                                                                                                                                                                                                                Center: NIH Intramural Center code: NISC
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RP81-332E11,
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                                                                                                                                                                                                                                                                                                                                                                                                              93547
102176
102276
1031686
131686
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68780
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Consensus quality: 153125 bases at least Q20 Insert size: 152000; agarose-fp Insert size: 16028; sum-of-contigs quality coverage: 5.36x in Q20 bases; agarose-fp Quality coverage: 5.10x in Q20 bases; sum-of-contigs
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lg of 14362 bp in length
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of 9267
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of 4836
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of 29643 bp in
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                                                                          TCCCTGTGGATTTTGAAAAGATACTATTTTTATTATTATTGTGACAAAATGT----TAAAT 1134
                                                                                                                     ACGGAGGCCGGGAGTTCCCATACGCGAGG-----GCTGAGAACAGGATGAGCTCCTTC
                                                                                                                                                                                GTCCCTAACCTCCCCCCACTTCAGGCACTAATCAGGGCTAGACGCCAGGGCGACTGGGAC
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131786. .161428
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41863 c 41233 g 37340
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102276. .131685
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Search completed: May 8, Job time: 4227.86 secs

2003, 09:38:47

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GenCore version 5.1.5 Copyright (c) 1993 - 2003 Compugen Ltd
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Database :
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-DB=EST -QFMT=fastap -SUFFIX=rst -MINMATCH=0.1 -LOOPELEO -LOOPEXT=0
-UNITS=bits -START=1 -END=-1 -MATRIX=biosum62 -TRANS=human40.cd1 -LIST=45
-DOCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE=LOCAL
-OUTFMT=pto -NORM=ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=2000000000
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-FGAPEXT=7 -YGAPOD=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
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Maximum Match 100%
Listing first 45 summaries
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Fgapop 6.0
Delop 6.0
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em_gss_inv: *
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3449.164 Million cell updates/sec
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No. a a a 753 742.5 738 738 652 648.5 645.5 604 598.5 582.5 582.5 572.5 572.5 520.5 520.5 520.5 520.5 520.5 520.5 520.5 520.5 1060. 403 395.5 391 388.5 363 362 353 353 352 347 913 909.5 904 825 809 Score Query Match 75.3 73.4 66.6 66.6 63.0 63.0 63.0 63.0 557.1 557.1 551.4 49.0 Length DB 1187 571 639 1926 400 342 910 834 828 918 940 940 950 561 963 1071 785 785 1033 584 698 Ħ ALIGNMENTS AAB70722 vq25907.r AA221610 my18d09.r BF04150 BP250025B BG404836 602420160 BF044430 BP250013A BE654876 UI-M-BH0-BE307031 601087888 BF821434 MR1-RR003 BM484863 538865 MA BM688946 UI-E-CQ1-BI967060 1427h07.y AI152313 ud87h02.r AA637970 vr30a10.r BG110063 602279667 BI966255 1e72904.y AW320117 un17b02.x B1738634 603358846 R55379 yj77a08.rl AW417023 52923 MAR BQ053284 AGENCOURT BF073881 220949 MA BF466521 UI-M-CG0p AI091441 ow62g05.x Description BI965174 1d34e07.y BI819200 ur70d09.y AGENCOURT 603064633 Mus muscu EST348878 AGENCOURT 603047966 603243254 603395825 602638232 AGENCOURT AGENCOURT

AUTHORS TITLE	REFERENCE	ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION		DEFINITION	LOCUS	BI871711	RESULT 1
NIH-MGC http://mgc.nci.nih.gov/. National Institutes of Health, Mammalian Gene Collection (MGC)	<pre>Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 731)</pre>	Homo sapiens	human.	EST.	BI871711.1 GI:16045386	B1871711	mRNA sequence.	603395825F1 NIH_MGC_90 Homo sapiens cDNA clone IMAGE:5405478 5',	B1871711 731 bp mRNA linear EST 11-OCT-2001		

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                                                                      PheAspGluG1yLysAlaValTyrLeuLysLeuAspLeuLeuValAspG1yValLeuAla
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CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
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//bb_xref="taxon:9606"
//clone=="IMAGE:5405478"
//clone=_ILb="NIH_MGC_90"
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//tlssue_type="adenocarcinoma, cell line"
//lab_host="DH10B (phage=resistant)"
//note="Organ: liver; Vector: pcMv-SPORT6; Site_1: NotI;
//note="Organ: liver; Vector: pcMv-SPORT6; Site_1: NotI;
//site_2: SalI; Cloned unidirectionally; oligo-dT primed.
Average insert size 1.7 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MGC Library."
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cDNA Library Preparation: Life Technologies, Inc.
cDNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
plate: LLAM12034 row: a column: 12
High quality sequence stop: 728.
Location/Qualifiers
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Tissue Procurement: ATCC
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, M
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Contact: Robert Strausberg, Ph.D.
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/db_xref="taxon:9606"
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/clone_1ib="NHH_MGC_90"
/tissue_type="adenocarcinoma, cell line"
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/lab_host="Dryan: liver; Vector: pcMV-SPORT6; Site_1: NotI;
Site_2: SalI; Cloned unidirectionally; oligo-dT primed.
Average insert size 1.7 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NHH_MGC Library."
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                                  CDNA Library Preparation: Life Technologies, Inc.
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DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM11437 row: 1 column: 03
High quality sequence stop: 759.
Location/Qualifiers
                                                                                                                       Onpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nlh.gov
Tissue Procurement: Life Technologies, Inc.
                                                                                                                                                                                                                                                  mRNA sequence.
BI819200
                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 777)
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603034614F1 NIH_MGC_115
                                                                                                                                                             NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
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/lab_host="DH10B"
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/note="Organ: pooled brain, lung, testis; Vector:
/note="Organ: pooled brain, lung, testis; Vector:
/note="Organ: pooled brain, lung, testis; lage range 23-27; lagency source anonymous pool of 6 male brains, age range 23-27; lagency lung, age 27; and l male testis, age 69. Library is oligo-dT primed and directionally cloned (EcoRV site is destroyed upon cloning). Average insert size 1.8 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 021. Note: this is a NIH_MGC Library."
NIH_MGC_122
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LysGlyArgLysThrArgAlaArgArgAlaIleAlaAlaHisTyrGluValHisProArg
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Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies, Inc.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
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National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
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Site_1: NotI; Site_2: EcoRV (destroyed); RNA source
anonymous pool of 24 week female lung, 16 week female
spleen, and 20-22 week male spleens. Library is oligo-dT
primed and directionally cloned (EcoRV site is destroyed
upon cloning). Average insert size 1.4 kb, insert size
range 1-3 kb. Library is normalized and enriched for
full-length clones and was constructed by C. Gruber
(Invitrogen). Research Genetics tracking code 026. Note
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NIH-MGC http://mgc.ncl.nih.gov/.
National Institutes of Health, Mammalian Gene Collect Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Miklos Palkovits, M.D., Ph.D.
cDNA Library Preparation: Michael J. Brownstein (NH)
Toshiyuki and Piero Carninci (RIKEN)
CDNA Library Arrayed by: The I.M.A.G.E. Consortium
CDNA Library Arrayed by: The I.M.A.G.E. Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://inage.llnl.gov plate: LLAM11722 row: k column: 13 High quality sequence stop: 776.
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                                                                                                                                                                                                                                                                                                                                                                               /clone_lib="NIH_MGC_96"
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Matches:
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BI596681

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                                                                       Email: cgapbs-r@mail.nih.gov

Tissue Procurement: Jeffrey E. Green, M.D.

CDNA Library Preparation: Life Technologies, Inc.

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

DNA Sequencing by: Incyte Genomics, Inc.

Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:

http://image.llnl.gov

Plate: LLAM9767 row: p column: 20

High quality sequence start: 17

High quality sequence stop: 724.

Location/Qualifiers
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                                                                                                                                                                                                 Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalla; Eutheria; Rodentia; Sciurognathi; Muridae; 1 (bases 1 to 918)
NIH-MGC http://mgc.nci.nih.gov/.
National institutes of Health, Mammalian Gene Collecteriations (1000)
                                                                                                                                                                                                                                                                                                                    mRNA sequence.
BF577781
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                                                                                                                                                                                                                                                                                                        BF577781.1
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                                            5', mRNA sequence.
BQ707185
BQ707185.1 GI;2184
EST.
  Homo sapiens
Eukaryota; Metazoa;
Mammalia; Eutheria;
                                 human
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US-09-245-198A-4 (1-284) x BF577781
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Best Local Similarity:
                                                                                                                                                                                                                                AlaHisLeuLysAlaAlaProPheLeuThrTyrPheGlyLeuPheGlnValHis
                                                                                                                                         ValSerGlyLeuLeuAlaLeuArgProGlySerSerLeuArgIleArgThrLeuProTrp
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                                                                        GCTCATCTTAAGGCTGC-CCCTTCCTAACTAACTTTGGACTCTTTCAAGTTCAC
                                                                                                                            GTGTCTGGGCTGTTGCCGCTGCGGCCAGGTCT-TCCCTTCGGATCCGCACCCTCCCCTGG
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Site_2: Sali; Cloned unidirectionally. Primer:
Average insert size 1.6 kb. Constructed by Life
Technologies. Note: this is a NCI_CGAP Library.
a 292 c 268 g 204 t 1 others
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GI;21846084

Chordata; Craniata; Vertebrata; Primates; Catarrhini; Hominidae

Hominidae;

Euteleostomi;

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                                AlaLeuArgCysLeuGluGluPheSerAlaThrAlaAlaSerSerLeuGlyProGlnLeu
                                                                                                                                                                 ArgLeuCysGlnValSerGlyLeuLeuAlaLeuArgProGlySerSerLeuArgIleArg
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NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nih.gov
Tissue Procurement: Dr. Mark Watson
Tissue Procurement: Dr. Mark Watson
Consortium (LLNL)
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High quality sequence stop: 550.
Location/Qualifiers
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/lab_host="DHIOB (phage resistant)"
/note="Organ: spleen; Vector: pOTB7; Site_1: XhoI; Site_2: EcoRI; cDNA made by Oligo-dr priming. Directionally cloned into EcoRI/XhoI sites using the following 5' adaptor: GGCACGAG(G). Library constructed by Ling Hong in the laboratory of Gerald M. Rubin (University of California, Berkeley) using ZAP-cDNA synthesis kit (Stratagene) and Supersoript II RT (Life Technologies). Note: this is a NIH_MGC Library."

a 334 c 252 g 187 t 2 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone="IMAGE:6278608"
/clone_lib="NIH_MGC_113"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
/db_xref="taxon:9606"
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Mismatches:
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US-09-245-198A-4 (1-284) x BQ884231
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Query Match:
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BQ884231.1
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Tissue Procurement: Dr. James R. Lupski
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
cDNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution: MGC clone distribution: MGC clone distribution formation can l
found through the I.M.A.G.E. Consortium/LLNL at:
http://lmage.llnl.gov
plate: LLAMJ3607 row: j column: 17
High quality sequence stop: 453.
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1 (bases 1 to 940)

NIH-MGC http://mgc.nci.nih.gov/.
Mational Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
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NotI; Site_2: SalI; cDNA made by oligo-dT priming.
Directionally cloned using the following adaptors:
5'-TCGACCCACGCGTCCG-3' and
5'-GACTAGTTCTAGATCGCGACCGGCCCT(15)-3'. Size selected >
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/db_xref="taxon:9606"
/clone="IMAGE:6197488"
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/dev_stage="adult, 70 yr"
/lab_host="DH10B"
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                                                                  Unpublished (1997)
Unpublished (1997)
Other_ESTs: ur70d09 xl
Contact: Robert Strausberg, Ph.D.
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Lothar Hennighausen Ph.D., Chu-Xia Deng Ph.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
image.llnl.gov/image/html/iresources.shtml
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National Cancer Institute, Cancer Genome Anat
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BQ671259 963 t

AGENCOURT_8303564 NIH_MGC_102

5', mRNA, sequence.

BQ671259

BQ671259.1 GI:21782093
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/clone_lib="NCI_CGAP_Mam3"
/tissue_type="tumor, gross tis
/dev_stage="10 months"
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158 c 194 g 100 t 1 others
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                   LeuArgCysLeuGluGluPheSerAlaThrAlaAlaSerSerLeuGlyProGlnLeuArg
                                                                                                          PheAspGluGlyLysAlaValTyrLeuLysLeuAspLeuLeuValAspGlyValLeuAla
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                                                                                                                                                                      CAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTGTACTGTCAGGTGCAC
CTGCGCTGCCTGGAGGAATTCTCAGCCACTGCGGCCCAGTTCCCTCGGGCCCCAGCTCCGC
                                                                                    TTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTGGTGGATGGTGTGCTGGCC
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Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
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1 (bases 1 to 963)

NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)
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CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bloscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
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Plate: LLCM2456 row: 1 column: 13
High quality sequence stop: 565.
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/clone=lib="NH_MGC_102"
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/tlssue_type="epidermoid carcinoma, cell line"
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/lab_host="DH10B (phage-resistant)"
/note="Organ: salivary gland; vector: pOTB7; Site_1: xhoI;
Site_2: EcoRI; cDNA made by oligo-dT priming.
Site_2: EcoRI; cDNA made by oligo-dT priming.
Directionally cloned into EcoRI/AhoI sites using the
following 5: adaptor: GGCACCAG(G). Library constructed
by Ling Hong in the laboratory of Gerald M. Rubin
(University of california, Berkeley) using ZAP-CDNA
synthesis kit (Stratagene) and Superscript II RT (Life
Technologies). Note: this is a NIH_MGC Library."
94 a 326 c 260 g 183 t
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CDNA Library Arrayed by: The I.M.A.G.E. Consortium
DNA Sequencing by: Agencourt Bloscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
plate: LLAM12786 row: p column: 02
High quality sequence stop: 656.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 (bases 1 to 1071)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
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BM921213
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1 (bases 1 to 1071)
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                                                                                                                                                                                                   /note-"organ: pooled brain, lung, testis; Vector: potW-SpORT6; Site_1: NotI; Site_2: EcoRV (destroyed); RNA source annonymous pool of 6 male brains, age range 23-27; 1 male lung, age 27; and 1 male testis, age 69. Library is oligo-dT primed and directionally cloned (EcoRV site is destroyed upon cloning). Average insert size 1.8 kb, insert size range 1-3 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 021. Note: this is a NIH_MGC Library."
                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="taxon:9606"
/clone="IMAGE:5752561"
/clone_lib="NIH_MGC_115"
/lab_host="DH10B"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGTACTGTCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAAGCTGGACTTGCTG
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1 (bases 1 to 951)

NIH-MGC http://mgc.nci.nih.gov/.

National Institutes of Health, Mammalian Gene Collection (MGC)

Unpublished (1999)
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CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
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                   165
                                                                                                                                                                                                                                                                                                              quality sequence stop: 335.
Location/Qualifiers
           /tissue_type="epidermoid carcinoma, cell line"
/tab_host="bHi0B (phage-resistant)"
/nab_host="bHi0B (phage-resistant)"
/note="Organ: salivary gland; Vector: poTB7; Site_1: XhoI;
Site_2: EcoRI; cDNA made by oligo-dT priming.
Directionally cloned into EcoRI/XhoI sites using the
following 5' adaptor: GGCACGAG(G). Library constructed
by Ling Hong in the laboratory of Gerald M. Rubin
(University of California, Berkeley) using ZAP-cDNA
synthesis kit (Stratagene) and Superscript II RT (Life
Technologies). Note: this is a NIH_MGC Library."
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/db_xref="taxon:9606"
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Tissue Procurement: Life Technologies, Inc.
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/organism="Homo sapiens"

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US-09-245-198A-4 (1-284) x BI762908 (1-785)
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rAlaAla-SerSerLeu-GlyProGlnLeuArgLeuCysGlnValSer-GlyLeuLeu-A
                                                                  uAspLeuLeuValAspGlyValLeuAla---LeuArgCysLeuGluGluPheSerAlaTh
                                                                                                                          yLeuTyrTyrLeuTyrCysGlnValHisPheAspGluGlyLysAlaValTyrLeuLysLe
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                                  TGCCTGGGCCTGGCTGGCCTGCCTGCCTGCTGGCCTGTGGTCAGTTATGGG
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/clone_lib="NIH_MGC_116"
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                                  CAGGCACAGCCCCCCGCCCCCATGGCCGCCCGTCGGAGCCCAGAGGCGGAGGGGGGCGCCGG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Robert Strausberg, Ph.D.
Email: cgapbs r@mail.nih.gov
Tissue Procurement: Louis M. Staudt, M.D., Ph.D.
CDNA Library Preparation: Ling Hong/Rubin Laboratory
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
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Plate: LLCM1625 row: p column:
High quality sequence stop: 587.
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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/lab_host="DH10B (phage-resistant)",
/note="Organ: B-cells; Vector: pOTB7; Site_1: xhoI;
Site_2: ECORI; cDNA made by oligo-dT priming.
Directionally cloned into ECORI/XhoI sites using the
following 5' adaptor: GGCACGAG(G). Size-selected >500bp
for average insert size 1.8kb. Library constructed by Ling
Hong in the laboratory of Gerald M. Rubin (University of
California, Berkeley) using ZAP-cDNA synthesis kit
(Stratagene) and Superscript II RT (Life Technologies).
Note: this is a NIH_MGC Library."
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/clone_lib="NIH_MGC_48"
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/db_xref="taxon:9606"
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             Kawai, J., Shinagawa, A., Shibata, K., Yoshino, M., Itoh, M., Ishii, Y., Arakawa, T., Hara, A., Fukunishi, Y., Konno, H., Adachi, J., Fukuda, S., Aizawa, K., Izawa, M., Nishi, K., Kiyosawa, H., Kondo, S., Yamaanaka, I., Saito, T., Okazaki, Y., Gojobori, T., Bono, H., Kasukawa, T., Saito, R., Kadota, K., Matsuda, H., Ashburner, M., Batalov, S., Casavant, T., Kadota, K., Matsuda, H., Ashburner, M., Batalov, S., Casavant, T., Kipishinan, W., Gaasterland, T., Gissi, C., King, B., Kochiwa, H., Fleischmann, W., Gaasterland, T., Gissi, C., King, B., Kochiwa, H., Fleischmann, W., Gaasterland, T., Gissi, C., King, B., Kochiwa, H., Fleischmann, W., Gaasterland, T., Gissi, C., King, B., Kochiwa, H.,
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Nikaido, I.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gratefully acknowledged.
Retina RNA was provided by Stefano Gustincich (Department of
Neurobiology, Harvard Medical School, 220 Longwood Ave., Boston,
02115, USA) whose assistance is gratefully acknowledged.
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422	285	1329	1100	760	449	1217	681	3169	664	221	212	977	845	566	351	1511	707	614	484	1043	507	1038	854	776	937	1696	748	655
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Q9L0B9	033629	Q9CD30	Q937L3	Q8VDI4	Q93HD5	060336	Q9HUZ6	Q917V8	09нүт9	Q8RYZ6	086312	Q8TET1	Q96н68	070005	Q85302	Q918E2	Q925J8	Q9NW41	Q9CTA7	Q93VC8	Q9RMT5	Q9AS09	Q9F2P0	Q9RJ01	Q93JD1	Q9WTR8	Q8T2Y0	Q9FBR7
Q910b9 streptomyce	033629 saccharopol	Q9cd30 mycobacteri	Q93713 deinococcus	Q8vd14 mus musculu	Q93hd5 streptomyce	060336 homo sapien	Q9huz6 pseudomonas	Q917v8 drosophila	Q9hyt9 pseudomonas	Q8ryz6 oryza sativ	N	-	Q96h68 homo sapien	5	Q85302 orf virus.	Q9i8e2 fugu rubrip	Q925j8 mus musculu	Q9nw41 homo sapien	Q9cta7 mus musculu	œ	ľ			Q9rj01 streptomyce		8		Q9fbr7 streptomyce

ALIGNMENTS

RESULT 1 Q9V5G2

Q9V5G2; Q9V5G2

PRELIMINARY;

PRT;

325 AA

01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)

CG12919 protein. CG12919.

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RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Amanatides P.G., Scherer S.E., Ii P.W., Hoskins R.A., Galle R.F.,
RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
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RA Harandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Haris N.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G.,
RA Haris N.L., Harvey D., Bernan B., Blandari D., Beasley E.M.,
Besson K.Y., Benos P.Y., Bernan B.P., Byraktaroglu L., Beasley E.M.,
RA Besson K.Y., Benos P.Y., Bernan B.P., Byraktaroglu L., Beasley E.M.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottler P.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenportt L.B., Davles P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenportt L.B., Davles P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenportt L.B., Devies P.,
RA Charles A., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Dolcher A., Jengelista C.C., Ferraz C., Ferriera S., Fleischmann W.,
RA Fosler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z., Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila. SEQUENCE FROM N.A. MEDLINE=20196006; PubMed=10731132; STRAIN-BERKELEY; NCBI_TaxID=7227;

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Matches 57
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Brown S.P., Ha
Submitted (MA)
                                                             Cerdeno A.
Submitted
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Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
Shue B.C., Siden-Klamos I., Simpson M., Skupski M.P., Smith T.,
Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
Svirskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J.,
Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
Zheng X.H., Zhong F.N., Rubin G.M., Venter J.C.;
"The genome sequence of Drosphila melanogaster.";
Science 287:2185-2195(2000).
                                                                                                                                                                                                                             Streptomyces coelicolor.
Bacteria; Firmicutes; Actinobacte.
Actinomycetales; Streptomycineae;
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01-OCT-2000 (TREMBLIE 1.15,
01-JUN-2002 (TREMBLIE 21,
MEDLINE-97000351; PubMed-8843436;
                              SEQUENCE FROM N.A.
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SCO4798 OR SCD63A.09C.
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InterPro; IPR000478; TNF_family.
SMART; SM00207; TNF; 1.
PROSITE; PS00251; TNF_1; 1.
PROSITE; PS50049; TNF_2; 1.
SEQUENCE 325 AA; 36862 MW; 61
                                                                                           STRAIN-A3
                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                NCBI_TaxID=1902;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AE003831; AAF58848.1; -.
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57; Conser
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ptomycineae; Streptomycetaceae; Streptomyces.
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Pred. No. 0
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN-A3(2) / M145;
STRAIN-A3(2) / M145;
STRAIN-A3(2) / M145;
Bentley S.D., Chater K.F., Cerdeno-Tarraga A.-M., Challis G.L.,
Thomson N.R., James K.D., Harris D.E., Quail M.A., Kieser H.,
Thomson N.R., James K.D., Harris D.E., Quail M.A., Kieser H.,
Thomson N.R., James K.D., Harris D.E., Quail M.A., Kieser H.,
Thomson N.R., James K.D., Harris D.E., Quail M.A., Kieser H.,
Thomson N.R., James K.D., Harris D.E., Quail M.A., Kieser H.,
                                                                                                                                                                                                                                                                                                                                                    Q9KZ17:
01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical protein SCO2220.
SCO2220 OR SC10B7.15
                                                                                                                                                                                                                                              Streptomyces coelicolor.
Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
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Nature 417:141-147(2002).
EMBL; AL356832; CA892661.1; -.
InterPro; IPR002886; Peptidase_M37.
Pfam; PF01551; Peptidase_M37; 1.
SEQUENCE 565 AA; 58070 MW; 7D0418D480C6A284 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bentley S.D., Chater K.F., Cerdeno-Tarraga A.-M., Challis G.L., Thomson N.R., James K.D., Harris D.E., Quail M.A., Kleser H., Harris D.E., Quail M.A., Kleser H., Collins M., Chandra G., Chen C.W., Collins M., Cronin A., Fraser A., Goble A., Hidalgo J., Hornsby T., Howarth S., Huang C.-H., Kleser T., Larke L., Murphy L., Ollver K., O'Neil S., Rabbinowitsch E., Rajandream M.A., Rutherford K., Rutter S., Squares S., Squares S., Taylor K., Seeger K., Saunders D., Sharp S., Squares R., Squares S., Taylor K., Warren T., Wietzorrek A., Woodward J., Barrell B.G., Parkhill J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kinashi H., Hopwood D.A.;
"A set of ordered cosmids and a detailed genetic a the 8 Mb Streptomyces coelicolor A3(2) chromosome.
Mol. Microbiol. 21:77-96(1996).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hopwood D.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-A3(2) / M145;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STGPHLH---
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SLAAGADDFADRASRTQERIDLKAEQDAEKKRAAQEAARKERLRPKFALPVKQHGLSAYY 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -LVAEED------QDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTRARRAIAAHY 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AVPSACVMSVAGIAAASVGSLTG--DEGTETAASAPDPGNAEAAPVKPSAANNKLDTQLT 389
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -VPLALGL---GLALACLGLLLAVVSLGSRASLSAQEPAQEE-----
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21.2%; Pre
ative 33;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --FDEGKAVYLKLDLLVDGVLALRCLEEFSATAAS 236
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                                   Collins M.,
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01-MAY-2000
01-MAY-2000
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                                                                                                                                                                                                                                                                                                         Dodson R.J., Haft D.H., Gwinn M.L., Nelson W.C., Richardson D.L., Moffat K.S., Qin H., Jiang L., Pamphile W., Crosby M., Shen M., Vanathevan J.J., Lam P., McDonald L., Utterback T., Zalewski C., Makarova K.S., Aravind L., Daly M.J., Minton K.W., Fleischmann R.D. Makarova K.A., Nelson K.E., Salzberg S., Smith H.O., Venter J.C.,
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EMBL; AL355752; CAB90868.1; -.
Hypothetical protein.
SEQUENCE 643 AA; 66537 MW;
                                                                                                    Hypothetical protein; Complete SEQUENCE 375 AA; 39596 MW;
                                                                                                                                                                                  EMBL; AE002081; AAF12062.1;
                                                                                                                                                                                                             radiodurans Rl.";
Science 286:1571-1577(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                      White O., Eisen J.A., Heidelberg J.F., Hickey E.K., Peterson J.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=20036896; PubMed=10567266;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacteria; Thermus/Deinococcus Deinococcaceae; Deinococcus.
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                                                                                                                                                          TIGR; DR2516;
                                                                                                                                                                                                                                                                                         Ketchum K.A., Nelson
Fraser C.M.;
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                                                                                                                                                                                                                                                              'Genome sequence of the radioresistant bacterium
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     Conservative
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     27;
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Score 100.5;
Pred. No. 1.7;
Pred. Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequence update)
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1978397658ED30B3 CRC64;
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                                                DB 16;
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RESULT
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                                           Query Match
                          Best
                                                                                                                                                         ProDom; PD000001; Euk_pkinase; 1.
ProDom; PD000066; SH3; 1.
SMART; SM00326; SH3; 1.
SMART; SM003219; TyrKC; 1.
SMART; SM00219; TyrKC; 1.
PROSITE; PS00107; PROTEIN_KINASE_ATP; 1.
PROSITE; PS00101; PROTEIN_KINASE_ST; 1.
PROSITE; PS00108; PROTEIN_KINASE_ST; 1.
PROSITE; PS00102; SH3; 1.
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01-OCT-2000
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Saridaki A., Ferraz C., Demaille J., Scher
"Genomic sequencing reveals the structure
                                                                                                                                                                                                                                                                                                                                               PRINTS; PR00452; SH3DOMAIN PRINTS; PR00109; TYRKINASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -i- SIMILARITY: BELONGS TO:
-i- SIMILARITY: CONTAINS 1:
EMBL; AF155142; AAF73281.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        genes and their close vicinity to 19.";
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Mammalia; Eutheria;
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                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN=129/OLA;
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                                                                                                                  Transferase
                                                                                                                                      ATP-binding; Kinase;
                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR000719;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cytogenet. Cell Genet. 89:85-88(2000)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              189
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                       Local
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                                                                                                                                                                                                                                                                                                                                                                                               PF00069; pkinase; 1. PF00018; SH3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P29355;
. Similarity 50; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR001452; SH3.
IPR001245; Tyr_pkinase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IPR002290;
                                                                                          850 AA;
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CONTAINS 1 SH3
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Rodentia;
                                                                                          93199 MW;
                   6.9%;
                                                                                                                                          SH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Euk_pkinase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ser_thr_pkinase
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20,
                                                                                                                                   domain; Serine/threonine-protein
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Last annotation update)
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                       Score 100;
Pred. No. 5.
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Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                             8F026CB3532DC10E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SER/THR
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                                             DB
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of the
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                                           11;
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Kcnk6 and Map3k11
on mouse chromoso
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                                             Length
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Q.

19 LGSRDGGAVRQAQPPAPMAARRSQRRRG---RRGEPGTALLVPLALGLGLALACLGLLLA 75

Matches

Conservative

10;

Mismatches

73;

Indels

38;

Gaps

7;

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RESULT 7
Q8WUI4
ID Q8WU
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local :
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Q9AAB9;
Q1-JUN-2001
Q1-JUN-2001
Q1-MAR-2002
  Q8WUI4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nierman W.C., Feldblyum T.V., Laub M.T., Paulsen I.T., Nelson Elsen J., Heldelberg J.F., Alley M.R.K., Ohta N., Maddock J.R., Potocka I., Nelson W.C., Newton A., Stephens C., Phadke N.D., DeBoy R.T., Dodson R.J., Durkin A.S., Gwinn M.L., Haft D.H., Kolonay J.F., Smit J., Craven M.B., Khouri H., Shetty J., Berr Utterback T., Tran K., Wolf A., Vamathevan J., Ermolaeva M., Walfaberg S.L., Venter J.C., Shapiro L., Fraser C.M.; "Complete genome sequence of Caulobacter crescentus."; Proc. Natl. Acad. Sci. U.S.A. 98:4136-4141(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Complete proteome. SEQUENCE 378 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-ATCC 19089 / CB15;
MEDLINE-21173698; PubMed-11259647;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS; PR01490;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacteria; Proteobacteria; alpha subdivision; Caulobacter group;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Caulobacter crescentus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TIGR; CC0683;
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                                                                                                                                                                                                                                       186
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                                                                                                                               VVATVAGRVAALPVEAGQTVGVGAAVAVLTPGDSALVAEL-YAPSRAAGFV
                                                                                                                                                                                                                                                                                                                                                                                    KGRKTRAR-----RAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQI 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LGSRDGGAVRQAQPPAPMAARRSQRRRGRR----GEPGTALLVPLALGLGLALACLGLLLA
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                                                                                                                                                                                  RLCQVSGLLA----
                                                                                                                                                                                                                                                                                    GEFIVTRAGLYYLYCQVHFDEGKAVYLKLDL---LVDGVLALRCLEEFSATAASSLGPQL
                                                                                                                                                                                                                                                                                                                                 TERLTLARAEVARAETIAAQGFLSPRE----LQARRSAELAVQQEASTLSSQALSYERQI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VVSLGSRASLSAQEPA--QEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRS--AP 131
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                                                                                                                                                                                                                                                                                                                                                                                                                                         --SLGAQSSAAGSRAAATQAALAAESRQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           secretion protein.
  PRELIMINARY;
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                                                                                                                                                                                                                               -DARLAAIPIDLQAARAEAASTLAGLEQ-QATQVEAQGRYY
                                                                                                                                                                            -----LRPGSSLRIRTLPWAHLKAAPFL 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29;
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Pred. No. 2.1;
29; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Created)
  PRT;
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  614
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 K.E.,
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                                                                                                                                                                                                                                                                                                                                                                                       Q9NYK9;
01-OCT-2000 (TrEMBLrel. 1:
01-OCT-2000 (TrEMBLrel. 1:
01-JUN-2001 (TrEMBLrel. 1:
                     SEQUENCE FROM N.A.

"ISSUE-CERVICAL CARCINOMA;
Li S., Fischle W., Verdin E., Walsh M.J.;
"A novel class II HDAC is associated with the transcriptional homeodomain repressor CCAAT displacement protein.";
Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AF239243; AAF63491.1;
InterPro; IPR000258; His_deacetylse.
pfam; pF00850; Hist_deacetyl; 1.

PRINTS; PR01270; HDASUPER.
                                                                                                                                                                                                                                                                                                  Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                       HDAC7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR000286; His_deacetylse
Pfam; PF00850; Hist_deacetyl; 1.
PRINTS; PR01270; HDASUPER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (APR-2001) to the EMBL; BC020505; AAH20505.1; EMBL; BC006453; AAH06453.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q8WUI4; Q9BR73;
01-MAR-2002 (TrEMBLrel.
01-MAR-2002 (TrEMBLrel.
01-JUN-2002 (TrEMBLrel.
    SEQUENCE
                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9NYK9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Strausberg R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE-COLON;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EQUENCE OF 339-614 FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RQIPSAEDLETDGGGPGQVVDDGLEHRELGHGQPEARGPAPLQQHPQVLLWEQQRLAGRL
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46; Conserv
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  HDASUPER.
A; 92363 MW;
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A; 66186 MW;
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Pred. No. 4.2;
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                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; Catarrhini; Hominidae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
    3157426AE1913DB6 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                               update)
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; Homo.
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RESULT 9
Q9UFU7
ID Q9UF
AC Q9UF
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D7 01-M
D7 01-D
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OSUFU7; PRELIMINARY;
O1-MAY-2000 (TrEMBLrel. 13, I
01-MAY-2000 (TrEMBLrel. 13, I
01-DEC-2001 (TrEMBLrel. 19, I
Hypothetical 94.3 kDa protein
DKF2P585J0917.
   Q9S2W5;
Q9S2W5;
01-MAY-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Koehrer K., Beyer A., Mewes H.W., Gassenhuber Submitted (SEP-1999) to the EMBL/GenBank/DDBJ EMBL; AL1114455; CAB55935.1; -
InterPro; IPR000286; His_deacetylse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
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Catarrhini;
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i; Hominidae; Homo.
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Q96GP2;
Q1-DEC-2001 (TrEMBLrel. 19, C.
Q1-DEC-2001 (TrEMBLrel. 19, L.
Q1-JUN-2002 (TrEMBLrel. 21, L.
KIAA1783 protein (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Complete genome sequence of the mod coelicolor A3(2).";

coelicolor A3(2).";

Nature 417:141-147(2002).

EMBL; AL109563; Cab52000.1;

InterPro; IPR002965; P_rich_extensn.

PRINTS; PR01217; PRICHEXTENSN.
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Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;

Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
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Redenbach M., Kieser H.M., Denapa
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(AUG-1999) 1
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to the EMBL/GenBank/DDBJ databases
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Last annotation update)
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Pred. No.
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PROSITE; PS50002; SH3; 1
NON_TER 1
SEQUENCE 1560
SEQUENCE FROM N.A.
STRAIN-NIPPONBARE;
MCCombie W.R., de la Bastide M., Spiegel L., Preston R.,
Kuit K., Nascimento L., Zutavern T., Balija V., Bell M.,
Santos L., Miller B., Katzenberger F., Muller S., King L.
                                                                                                                                                                                                                                                                                                                                                                                             Q8S515 PRELIMINARY; PRT; 408 AA. Q8S515; Q8S515; Q1-JUN-2002 (TrEMBLrel. 21, Created) Q1-JUN-2002 (TrEMBLrel. 21, Last sequence update) Q1-JUN-2002 (TrEMBLrel. 21, Last annotation update Hypothetical 41.5 kDa protein. QSJNBAQ061H20.4.
                                                                                                                                                                                                                                                             Oryza sativa (Rice).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnollophyta; Lillopsida; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza.
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Pfam; PF00063; myosin_head;
Pfam; PF00784; myTH4; 1.
Pfam; PF00784; SH3; 1.
SMART; SM00015; TQ; 1.
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Nagase T., Nakayama M., Nakajima D., Kikuno R., Ohara O.;
"Prediction of the coding sequences of unidentified human genes.
The complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from brain which complete sequences of 100 new cDNA clones from the complete sequences of 100 new cDNA clones from the complete sequences of 100 new cDNA clones from the complete sequences of 100 new cDNA clones from the complete sequences of 100 new cDNA clones from the complete sequences of 100 new cDNA clones from the complete sequences of 100 new cDNA clones from the complete sequences of 100 new cDNA clones from the complete sequences of 100 new cDNA clones from the complete sequences of 100 new cDNA clones from the complete sequences of 100 new cDNA clones from the clones from the clones from the clones from the clones from the clones from the clones from the clones from the clones from the clones from the clones from the clones from the clones from the clones from the clones from the clones from the clones from the clone
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Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
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75; Conserv
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IPR001609; myosin_head.
IPR000857; MYTH4.
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01-OCT-2000
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SEQUENCE 926 AA; 103198 MW; 66B20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (NOV-1997) to the EMBL/Ger EMBL; AJ002220; CAB91652.1; -. InterPro; IPR000345; CYtC_heme_bind. InterPro; IPR0002219; DAG_PE-bind. InterPro; IPR001849; PH.
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"Genomic sequence for Oryza sativa, Nipponbare strain,
OSJNBA0061H20, from chromosome 10, complete sequence."
Submitted (APR-2002) to the EMBL/GenBank/DDBJ database
EMBL; AC11337; AAM08840.1; -.
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Hanski M.L., Hummel M., Riecken E.;
"Molecular cloning and characterisation
two PH domains.";
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
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16; Mismatches
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Mammalia; Eutheria; Primates;
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Q9Y4G2;
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"Prediction of the coding sequences of unidentified human genes. VII.
The complete sequences of 100 new cDNA clones from brain which can
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SMART; SM00109; C1; 1.
SMART; SM00233; PH; 2.
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Tanaka A., Kotani H., Nomura N., Ohara O.;
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EMBL; AB002354; BAA20813.2; -.
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                                                                                                                                                                                                                                                                                       GLALACLGLLLAVVSLGSRASL---SAQEPAQEELVAEED-QDPSELNPQTEESQDP---
  VDGVLALRCLEEFSATAASSLGP----QLRLCQVSGLLALRPGS
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                                                                                                   WEEARI-----NSSSPLRYNRQIGEFIVTRAGLY----YLYCQVHFDEGKAVYLKLDLL
                                                                                                                                                                                                                                                         GQG----NGLQKAQAHDGAGLKLVVSSPTSPKNKSWISEDDFYRPSREQPLESASDHPIAS
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                                                   HKSFRVVHRRQMGLSNPFRGLMKLG--TVERRGAMGIWKELFCELSPLEFR-LYLSNE--
                                                                                                                                                         YRGTPGSRPGLHRHFSQEPRKNCSLGALDQA----
                                                                                                                                                                                                         ----APFLNR--LVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSG
                                                                                                                                                                                                                                                                                                                                                             LHCEAPAEPLPAQAASGTQDGVHVQEPRPQAPSPLDLQQPVESTSGQQPSSTVSETAREV
                                                                                                                                                                                                                                                                                                                                                                                                                LDFEISARRLPLPRSLGSRDGGAVRQAQPPAPMAARRSQRRRGRRGEPGTALLVPLALGL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PR00275;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PS50081; DAG_PE_BIND_DOM_2; 1.
PS50003; PH_DOMAIN; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1058 AA;
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Last annotation updat
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Pred. No. 12;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CD1AD18869C8C9D1 CRC64;
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Search completed: May Job time: 34.1297 secs

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Best Local Similarity
Matches 67; Conserv
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01-JUN-2002 (TremBLrel. 2
01-JUN-2002 (TremBLrel. 2
B114B07.16 protein.
B1114B07.16.
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Q8S1A6;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sasaki T., Matsumoto T., Yamamoto K.;
"Oryza sativa nipponbare(GA3) genomic DNA,
clone:B1114B07.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
STRAIN-CV. NIPPONBARE;
Matsumoto T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Oryza sativa (japonica cultivar-group).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=39947;
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373
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-VAG-----RGKSPTVPTRDWS
                             QVSGLLALRPGSSLRIRTLPWA
                                                                                             GEFIVTRAGLYYLYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLC
                                                                                                                                                                                                                                                                 LADTAVGLGSDVARRRGHLGCRRGSGGGGGGGGGGGGGGGGGGASHAATAALIPWRGTAPCRG
                                                                                                                                                                                                                                                                                                  LVPLALGLG-----
                                                                                                                                                                                                                                                                                                                                   RRPYPRPEPLREAHVLRRQAPPRRERVGRRERRRDRAVRPDVDDRDGDSRSLRRRRRRLS 166
                                                                                                                                                                                                                                                                                                                                                                 RLPLPRSLGSRDGGAVRQAQPPAPMAARRSQRRRGERGEPGT----
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                                                              LEYVAT -- CVHGLVCPIHAATARSL----
                                                                                                                                 ---ERGGGGRVRYRRRRHHWYRERERERESAAGGD
                                                                                                                                                               PRRSAPKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQI 185
                                                                                                                                                                                                 RGAALAPGSLGRRRGGGQRLAGVGDAEREADGDEGRDPRGVEDRGRRDGEPAEEVALVV-
                                                                                                                                                                                                                               -GLLLAVVSLGSRAS----LSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVR 125
                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
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Pred. No.
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                                                                --- AACVLPYVAVWNARALRSIGPG-RQC
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                                                                                                                                                                                                                                                                                                                                                                                                116;
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Result
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Maximum DB
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 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1020
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108.5
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 \begin{array}{c} 787 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\ 707 \\
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Copyright (c) 1993 - 2003 Compugen
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TNF9_HUMAN
CG22_ANTMA
TNFB_MACEU
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TN12_MOUSE
TNF5_CHICK
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TNFB_RABIT
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                                                                                                                                                                                                                                                                            043508 homo sapien
054907 mus musculu
0918d8 gallus gall
097626 canis famil
P41273 homo sapien
P34801 antirrhinum
09xt48 macropus eu
09my16 macaca mula
P52154 micrococcus
011162 mycobacteri
043557 homo sapien
09bdn1 cercocebus
014934 homo sapien
09jk91 mus musculu
P5291 homo sapien
             Q9xt47
P54467
Q9jm09
Q9d777
Q04463
P17471
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O88609
                                                                                                                                                             P48023
P10154
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035235
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                                                                                                                                                                                                                                               klebsiella
m tumor nec
             mus n
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herpesvirus
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bos taurus
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bacillus su
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                                                                                                                                                                                                               homo sapien
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                                              bovine herp
bovine herp
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no sapien
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AC 0435	12	RESULT 1		45	44	43	42	41	40	39	38	37	36	35	34		
043508; Q8WUZ7; 15-JUN-2002 (Rel. 41. Created)	TN12_HUMAN	i		83	83	83	83	83.5	83.5	83.5	83.5	84	84	84	84		
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1. Cre	STANDARD;			1217	936	653	228	885	545	505	416	825	575	310	284		
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d.	PRT;		ALIGNMENTS	AF4_MOUSE	FHL1_YEAST	APP1_MOUSE	BIOD_PSEAE	VGLB_HSV2S	RTN2_HUMAN	TUB_MOUSE	RAGE_BOVIN	ICPO_HSV2H	MIS_PIG	TNFC_MARMO	HX1L_HUMAN		
	249		MENTS	H	ST	SE	Æ	2S	AN	Ħ	H	2H		ð	AN		
	AA.			O88573 mus musculu	P39521 saccharomyc	Q03157 mus musculu		P24994 herpes simp		P50586 mus musculu		P28284 herpes simp	P79295 sus scrofa	Q9jm10 marmota mon	O43763 homo sapien		

SEQUENCE FROM N.A., AND N-TERMINUS OF SOLI TISSUE-TORS11, and Fetal liver; MEDLINE-98070415; Pubmed-9405449; Chicheportiche Y., Bourdon P.R., Xu H., Hs Chicheportiche Y., Bourdon P.R., Xu H., Hs Hession C., Garcia I., Browning J.L.; "TMEAK, a new secreted ligand in the tumoz weakly induces apoptosis."; J. Biol. Chem. 272:32401-32410(1997). Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates; MCBI_TaxID=9606; 15-JUN-2002 (Rel. 41, Created) 15-JUN-2002 (Rel. 41, Last sequence update) 15-JUN-2002 (Rel. 41, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update) Tumor necrosis factor ligand superfamily member 12 (TNF-related weak inducer of apoptosis) (TWEAK) (APO3 ligand). TNFSET2 OR APO3L OR DR3LG. Homo sapiens (Human). Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo. tumor necrosis factor family that SOLUBLE FORM Hsu Y.-M., Scott H.,

J. B1ō1. [2] TISSUE=Fetal kidney;
MEDLINE=98228355; PubMed=9560343; Ashkenazi A.; Marsters S.A., Sheridan J.P., 'Identification of a ligand for the death-domain-containing receptor SEQUENCE FROM N.A. Pitti R.M., Brush J., Goddard A.,

TISSUE-Tonsil;

SEQUENCE FROM N.A.

Apo3."

Curr. Biol. 8:525-528(1998).

Submitted Strausberg $_{
m (DEC-2001)}$ to the EMBL/GenBank/DDBJ databases

FUNCTION

PubMed=10085077;
Lynch C.N., Wang Y.C., Lund J.K., Chen Y.-W., Leal J.A., Wiley S.R.;
Lynch C.N., Wang Y.C., Lund J.K., Chen Y.-W., Leal J.A., Wiley S.R.;
TWEAK induces angiogenesis and proliferation of endothelial cells.";
J. Biol. Chem. 274:8455-8459(1999).
-i- FUNCTION: Binds to FN14 and possibly also to TNRFSF12/APO3. Weak
inducer of apoptosis in some cell types. Mediates NF-KappaB
activation. May promote angiogenesis and the proliferation of
endothelial cells.
-i- SUBUNIT: HOMOTRIMER (POTENTIAL).

SUBCELLULAR LOCATION: Type II membrane protein and secreted. TISSUE SPECIFICITY: Highly expressed in adult heart; pancreas, skeletal muscle, brain, colon, small intestine, lung, ovary, prostate, spleen, lymph node, appendix and peripheral blood lymphocytes. Low expression in kidney, testis, liver, placenta thymus and bone marrow. Also detected in fetal kidney, liver, liver, placenta, kidney, liver,

and brain.

The soluble form derives from the membrane form

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RESULT IN12_MO TO 15 OT 15 OT 15 OT 15 OT 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT TU 15 OT 
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Best Local S
Matches 249
                                                            TIN12_MOUSE STANDARD; PRT; 225 AA.

054907; 09CTP2;

15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor ligand superfamily member 12
inducer of apoptosis) (TWEAK) (Fragment).
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SEQUENCE
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   Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AF030099; AAC51923.1; -.
EMBL; AF055872; AAC39724.1; -.
EMBL; BC019047; AAH19471; ALT_FRAME.
Genew; HGNC:11927; TNFSF12.
MIM; 602695; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Enthe European Bioinformatics Institute. There are no restricted the companies of the companies of the contract of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of the companies of
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
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Pfam; PF00229; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
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SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR
CAUTION: Ref. 3 sequence differs from that shown
frameshift in position 125.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYFGLFQVH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYFGLFQVH 284
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYYLYCQVHFDEGKAVYLKLD
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   Metazoa;
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93
139
249 AA;
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Chordata;
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EXTRACELLULAR (POTENTIAL).
CLEAVAGE.
N-LINKED (GLCNAC. . .).
W; E660843361C28EBA CRC64;
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MEMBER 12, SECRETED FORM.
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE
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TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY
MEMBER 12, MEMBRANE FORM.
Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
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RA Kawai J., Shilagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA Arakawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Salto T., Okazaki Y., Gojobori T., Bono H., Rasukawa T., Salto R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Sakai K., Okido T., Furuno M., Aono H., Ramiya M.F.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Ringwald M., Rodriguez I., Sakamoto N.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA Wyshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
Ra Hayashizaki Y.,
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"TWEAK, a new secreted ligand in the tumor necrosis factor family that
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                weakly induces apoptosis.";
J. Biol. Chem. 272:32401-32410(1997).
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MEDLINE-98070415; PubMed-9405449;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=21085660; PubMed=11217851;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   activation (By similarity).
SUBUNIT: Homotrimer (Potential).
SUBCELLULAR LOCATION: Type II me
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE SPECIFICITY: WIDELY EXPRESSED.
PTM: The soluble form is produced fro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           inducer of apoptosis in some cell types. Promotes the proliferation of endothelial cells. Mediates \ensuremath{\mathsf{N}}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FUNCTION: Binds to FN14 and possibly also to TNRFSF12/APO3. Weak
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE-Retina,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       full-length mouse cDNA collection.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           s angiogenesis and
NF-KappaB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       secreted
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use by modified This SWI entities requires a license agreement (S or send an email to license@isb-sib.ch). s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation. European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way iffed and this statement is not removed. Usage by and for commercial moved. Usage by and for commercial (See http://www.isb-sib.ch/announce/

PTM: The soluble form is produced from the membrane form proteolytic processing (By similarity).
SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.

form

DOMAIN SITE EMBL; AK020909; BAB32249.1; -.
MGD; MGI:1196259; Tnfsf12.
InterPro; IPR000478; TNF_family
Pfam; PF00229; TNF; 1.
SMART; SMNNOON. TRANSMEM PROSITE; PS00251; TNF_1; PROSITE; PS50049; TNF_2; NON_TER AF030100; Apoptosis; 69 ۵ 70 225 225 21 TNF_family. Transmembrane; FALSE_NEG MEMBER 12, MEMBRANE FORM.

TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY EXTRACELLULAR (POTENTIAL) CLEAVAGE (BY SIMILARITY). MEMBER 12, SECRETED FORM (BY SIN SIGNAL-ANCHOR (TYPE-II MEMBRANE TUMOR NECROSIS FACTOR (POTENTIAL). Glycoprotein; Signal-anchor. LIGAND SUPERFAMILY

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted -1- FUNCTI
                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tumor necrosis factor ligand superfamily member 5 L) (CD154 protein).
TNFSF5 OR CD40LG OR CD40L.
ProDom; PD002012; TNF_abc; 1.
ProDom; PD008600; TNF_5; 1.
SMART; SM00207; TNF; 1.
                                                                       InterPro; IPR003263; TNF_5.
InterPro; IPR003636; TNF_abc.
InterPro; IPR003478; TNF_family.
Pfam; PF00229; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TNF5
                                                                                                                                                                        HSSP; P29965;
                                                                                                                                                                                             EMBL; AJ243435; CAB95748.1;
                                                                                                                                                                                                                                                  or send an
                                                                                                                                                                                                                                                                          entities requires a license agreement
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-White leghorn; TISSUE-Spleen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gallus gallus (Chicken).
Eukaryota; Metazoa; Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q918D8;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 LGLGLALACLGLLLAVVSLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFL 120
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gaskes C.A., Young J.R., Burnside J.;
mitted (JUN-1999) to the EMBL/GenBank/DDBJ databases.
FUNCTION: Cytokine that binds to TNFRSF5. Mediates B-cell
proliferation in the absence of co-stimulus as well as IgE
production in the presence of IL-4. Involved in immunoglobulin
class switching (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                           proteolytic processing (By similarity).
SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CHICK
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                                                                                                                                                                                                                                                email to license@isb-sib.ch).
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N-LINKED (GLCNAC. . .) (F 90C412CC0480659B CRC64;
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; Galliformes; Phasianidae; Phasianinae;
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Best Local (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 097626;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor ligand superfamily member
TNNFSF5 OR CD40LG OR CD40L.
Canis familiaris (Dog).
Eukaryota; Metazoa; Chordata; Craniata; Vertebra
Mammalia; Eutheria; Carnivora; Fissipedia; Canid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SITE
DISULFID
CARBOHYD
                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                           "Adjuvant properties of canine CD40L.";
Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Cytokine that binds to TNFRSF5. Mediates B-cell proliferation in the absence of co-stimulus as well as Igj production in the presence of IL-4. Involved in immunogloi class switching (By similarity).
-!- SUBUNIT: HOMOTRIMER (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CANFA
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                                                 or send an email to license@isb-sib.ch).
                                                                        entities requires a license agreement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
Hosie M.H., Willett B.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CARBOHYD
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  EMBL; AF086711; AAD04375.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        248 ---SGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            183 IYSQVSFCTKAAASAPFTLYIYLYLPMEEDRLL-MKGLDTHSTSTA------LCELQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        198 LYCQVHFDEGKA------VYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            133 RQPIATHLA------GVKSNTTVRVLKWMTTSYAPTSSLISYHE--GKLKVEKAGLYY 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        139 RRAIAAHYEVHPRPGQDGAQAGVDGTVSGW-EEARINSSSPLRYNRQIGEFIVTRAGLYY 197
                                                                                                                                                                                                                                              EXTRACELLULAR SOLUBLE FORM (BY SIMILARITY).

PTM: The soluble form derives from the membrane form by proteolytic processing (By similarity).

SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                   SUBCELLULAR LOCATION: TYPE II MEMBRANE PROTEIN.
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Glycoprotein; Signal-anchor.
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N-LINKED (GLCNAC. ..) (POTENTIAL).
N-LINKED (GLCNAC. ..) (POTENTIAL);
5409F24A8E53CCD7 CRC64;
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Pred. No. 0.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL.
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                                                                        (See http://www.isb-sib
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Vertebrata;
ia; Canidae;
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Best Local S
Matches 53
                                                                                                  Alderson M.R., Smith C.A., Tough T.W., Davis-Smith T., Armitage R Falk B., Roux E., Baker E., Sutherland G.R., Din W.S., Goodwin R., "Molecular and biological characterization of human 4-1BB and its
                                                                                                                                                                           Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; I
Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                TNF9_HUMAN
P41273;
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CARBOHYD
SEQUENCE
                                                                                                                                         SEQUENCE FROM N.A. MEDLINE-94374434; PubMed-8088337;
                                                                                                                                                                                                                                                                                                                       HUMAN
                                                                                                                                                                                                                             TNFSF9
                                                                                                                                                                                                                                                 Tumor necrosis factor
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15-JUN-2002
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InterPro; IPR000478; TNF_family.
Pfam; PF00229; TNF; 1.
ProDom; PD008600; TNF_5; 1.
SMART; SM00207; TNF; 1.
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PROSITE; PS50049; TNF_2; 1.
Cytokine; Transmembrane; Gl
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   68
  FUNCTION: Cytokine that binds to INPRSF9. Induces the proliferation of activated peripheral blood T cells. May have role in activation induced cell death (AICD). May play a role cognate interactions between T cells and B cells/macrophages SUBUNIT: HOMOTRIMER (POTENTIAL).

SUBCELLULAR LOCATION: Type II membrane protein.

TISSUE SPECIFICITY: EXPRESSED IN BRAIN, PLACENTA, LUNG, SKELL
                                                                                                                                                                                                                                                                                                                                                                GASVFVNVTDPSOVSHGTGFTSFGLLKL 260
                                                                                                                                                                                                                                                                                                                                                                                       GSSLRIRTLPWAHLKAAPFLTYFGLFQV
                                                                                                                                                                                                                                                                                                                                                                                                           SNRAASSQAPF----VASLCLHSPSGTERVLLRAASSRGSSKPCGQQSIHLGGVFELHP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EPAQEELVAEE--DODPS-ELNPQTEESODPAPFLNRLVRPRRSAPKGRKTRARRAIAAH 145
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                                                                                  Immunol.
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 LULAR LOCATION: Type II mer
SPECIFICITY: EXPRESSED IN
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(Rel. 41,
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Last annotation update)
ligand superfamily memb
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TUMOR NECROSIS FACTOR LIGAND
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TUMOR NECROSIS FACTOR LIGAND SUF
MEMBER 5, SOLUBLE FORM (BY SIMII
CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE
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Best Local
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01-FEB-1994 (Rel. 28, Created)

01-FEB-1994 (Rel. 28, Last seq

16-OCT-2001 (Rel. 40, Last ann

G2/mitotic-specific cyclin 2.
                                                                                                                                                      Antirrhinum majus (Garden snapdragon).
Eukaryota; Viridiplantae; Streptophyta; Embryoph;
Spermatophyta; Magnollophyta; eddicotyledona; coi
Asteridae; euasterids I; Lamiales; Veronicaceae;
MEDLINE=94148008; PubMed=8313906; Fobert P.R., Coen E.S., Murphy G.J.P., Doonan J.H.; Patterns of cell division revealed by transcriptional genes during the cell cycle in plants.";
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                                                                                                                                                                                                                                                                                                                                                    16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Lymphotoxin-alpha precursor (LT-alpha) (TNF-beta)
factor ligand superfamily member 1).
LTA OR TNFSF1 OR TNFB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE 441 AA; 49205 MW; E6E4C037C98880A7 CRC64;
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InterPro; IPR004366; Cyclin.
InterPro; IPR004367; Cyclin_Cterm.
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SEQUENCE FROM N.A.
MEDLINE-20284948; PubMed-10826697;
                                                                                                                                                       NCBI_TaxID=9315;
                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniai
Mammalia; Metatheria; Diprotodontia;
                                                                                                                                                                                                                                                   Macropus eugenii (Tammar wallaby).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9XT48;
16-OCT-2001 (Rel. 40, Created)
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SUBUNIT: INTERACTS WITH THE CDC2 AND CDK2 PROTEIN KINASES TO FORM A SERINE/THREONINE KINASE HOLOENZYME COMPLEX. THE CYCLIN SUBUNIT IMPARTS SUBSTRATE SPECIFICITY TO THE COMPLEX.

DEVELOPMENTAL STAGE: ACCUMULATES STEADILY DURING G2 AND IS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAVRQAQPPAPMAARRSQRR------RGRRGEPGTALLVPLALGLGLALACLGLL
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24.0%; Pred. No.
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TNF6_MACMU
ID TNF6_M
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TIMOT
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Best Local
(CD95L protein).
TNFSF6 OR FASL OR CD95L.
Macaca mulatta (Rhesus macaque),
Macaca fascicularis (Crab eating macaq
Macaca nemestrina (Pig-tailed macaque)
                                                                                  Q9MYL6; Q9BDM5;
15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Tumor necrosis factor ligand superfamily member
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROSITE; PS00251; TNF_1; 1.

PROSITE; PS50049; TNF_2; 1.

Cytokine; Glycoprotein; Cytotoxin; Signal SIGNAL 27 BY SIMILARIT CHAIN 28 201 LYMPHOTOXIN-CARBOHYD 93 93 N-LINKED (GL SEQUENCE 201 AA; 21536 MW; 8C4C371CB5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Macropus eugenii.";
DNA Seq. 10:399-403(2000).
-1- FUNCTION: Cytokine tha
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ProDom; PD002012; TNF_abc; 1.
SMART; SM00207; TNF; 1.
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use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by ar
                                                                                                                                                                    TNF6_MACMU
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InterPro; IPR000478; TNF_family.
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                                                                                                                                                                                                                                                                               272 APFLTYFGLF
                                                                                                                                                                                                                                                                                                                                                                                                             165 VSGWEEARINSSSP-LRYNRQI--GEFIVTRAGLYYLYCQVHFDEGKA-------VYLKL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FUNCTION: Cytokine that in its homotrimeric form binds to TWRSFIA/TWRR, TWRRSFIB/TWFBR and TWRRSFI4/HVEM. In its heterotrimeric form with LTB binds to TWRRSF3/LTBR. Lymph produced by lymphocytes and cytotoxic for a wide range of cells in vitro and in vivo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUBUNIT: Homotrimer, and heterotrimer of either two LTB and one LTA subunits or (less prevalent) two LTA and one LTB subunits ()
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                                                                                                                                                                                                                                                                                                                                                                                                                                             NPDNSHSSSPAP-----PQTAQHLSQKSLKRETLKPAAHL-----VGDPSVQDSIH--
                                                                                                                                                                                                                                                 SPSSVFFGAF
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                                                                                                                                                                                                                                                                                                               EVILIFSSKYQVHVPLLSAQKSVCSGTQGPWMRSVYQGAVFLLTQGDRLSTYTDGVSHLLQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
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                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                 281
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 95.5; DB Pred. No. 0.86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LYMPHOTOXIN-ALPHA.

N-LINKED (GLCNAC. . .) (F
8C4C371CB5091627 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BY SIMILARITY
                                                                                                                                                                    PRT;
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                     macaque)
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for a wide range of tumor
                     (Cynomolgus
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                     monkey),
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                                                                                   antigen ligand)
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Query Match
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DOMAIN
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PROSITE; PSO0251; TNE_1; 1.

PROSITE; PS50049; TNE_2; 1.

PROSITE; PS50049; Transmembrane; Glycoprotein; Signal-anchor.

TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY

MEMBRANE FORM.

SUPERFAMILY
                                                                                                                                                                                                                                                                                                                                                                 EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Villinger F., Bostik P., Weiss W.R., Ansari A.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SPECIES-M.mulatta; TISSUE-Lymphocytes; MEDLINE-21383618; PubMed-11491535; Villinger F., Bostik P., Mayne A.E., F
                                                                                                                                                                                                                                                                                       InterPro; IPR000478; TNF_family.
Pfam; PF00229; TNF; 1.
PRINTS; PROTO?
                                                                                                                                                                                                                                                                                                                                                                                                                                    modified and this statement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation
                         SEQUENCE
                                    CONFLICT
                                                CARBOHYD
                                                            CARBOHYD
                                                                        CARBOHYD
                                                                                   DISULFID
                                                                                                 SITE
                                                                                                                                   DOMAIN
                                                                                                                                                           TRANSMEM
                                                                                                                                                                                                                                                                                                                                         HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                              or send
                                                                                                                                                                                                                                                                                                                                                                                                                            entities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (NOV-1999) to the EMBL/GenBank/DDBJ databases -i- FUNCTION: Cytokine that binds to TNFRSF6/FAS, a reco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Cloning, sequencing, and homology analysis of Fas/Fas-ligand and co-stimulatory molecules.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Cercopithecinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kirii Y., Inoue T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SPECIES-M.mulatta, M.fascicularis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                              ProDom; PD002012; TNF_abc;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             transduces the apoptotic signal into cells. May be involved in cytotoxic T cell mediated apoptosis and in T cell development. TNFRSF6/FAS, mediated apoptosis and in T cell development. Peripheral tolerance, in the antigen-stimulated suicide of mature T cells, or both. Binding to the decoy receptor TNFRSF6B/DcR3 modulates its effects (By similarity).

SUBUNIT: Homotrimer (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         proteolytic processing (By similarity).
SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                similarity).
PTM: The soluble form derives from the membrane
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                                                                                                                                                                                                                                                                                                                                                                 AB035138;
AB035139;
                                                                                                                                                                                                                                                                                                                                         P01375; 4TSV
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                                                                                                                                                                                                                                                                                                                                                       AB035140;
                                                                                                                                                                                                                                                                                                                                                                                                           s requires a license agreement (See http://www.isb-sib.ch/announce/
an email to license@isb-sib.ch).
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128
201
183
249
259
260
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                                                         POTENTIAL.
N-LINKED (
                                                                                                                                                                    TUMOR NECROSIS FACTOR LIGAND MEMBER 6, SOLUBLE FORM (BY SICYTOPLASMIC (POTENTIAL).
 Score 94;
                                                                                            CLEAVAGE (BY SIMILARITY).
                                                                                                                                             SIGNAL-ANCHOR (TYPE-II (POTENTIAL).
                                                                                                          POLY-PRO.
                                                                                                                                  EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata; Euteleostomi; Catarrhini; Cercopithecidae;
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Length 280
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Matches
                                                                                                                                    NOWATCHE W.L.;

NOWATCHE W.L.;

Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases.

-!- FUNCTION: FACILITATES TRANSCRIPTION TERMINATION BY A MECHANISM -!- FUNCTION: THAT INVOLVES RHO BINDING TO THE NASCENT RNA, ACTIVATION OF RHC RNA-DEPENDENT ATPASE ACTIVITY, AND RELEASE OF THE MRNA FROM THE DNA TEMPLATE. RNA-DEPENDENT NTPASE WHICH UTILIZES ALL FOUR RIBONUCLEOSIDE TRIPHOSPHATES AS WELL AS DATP AS SUBSTRATES, BUT HAS A SIGNIFICANT LOWER ACTIVITY WITH CTP.

-!- SUBUNIT: HOMOHEXAMER (BY SIMILARITY).
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                                                                                                                       This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Opperman T., Richardson J.P.; "Phylogenetic analysis of sequences homology to the Escherichia coli rhd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RHO_MICLU
P52154;
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"Characterization of an unusual Rho fa
positive bacterium Micrococcus luteus.
J. Biol. Chem. 271:742-747(1996).
                                                                                                 between
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16-OCT-2001
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ween the Swiss Institute of Bioinformatics and the E
European Bioinformatics Institute. There are no rest
by non-profit institutions as long as its content
ified and this statement is not removed. Usage by an
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                                                                                            SWISS-PROT entry is copyright. It is produ
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7 (Rel. 35,
1 (Rel. 40,
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RESULT 10
Y497_MYCTU STANDARD; PRT; 310
ID Y497_MYCTU STANDARD; PRT; 310
AC Q11162;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence upda
DT 15-JUN-2002 (Rel. 41, Last annotation up
DE Hypothetical protein Rv0497.
GN RV0497 OR MT0517 OR MTCY20G9.23.
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Best Local S
Matches 43
                                                                                                                                                               MEDLINE-98295987; PubMed-9634230;
Cole S.T., Brosch R., Parkhill J., Garnier T., Churcher C., Harris i Gordon S.V., Eiglmeier K., Gas S., Barry C.E. III, Tekaia F., Gordon S.V., Eiglmeier K., Gas S., Barry C.E. III, Tekaia F., Badcock K., Basham D., Brown D., Chillingworth T., Connor R., Badcock K., Basham D., Brown D., Chillingworth T., Connor R., Davies R., Devlin K., Feltwell T., Gentles S., Hamlin N., Holroyd S., Hornsby T., Jagels K., Krogh A., McLean J., Moule S., Murphy L., Oliver S., Osborne J., Quail M.A., Rajandream M.A., Rogers J., Rutter S., Seeger K., Skelton S., Squares S., Squares R., Sulston J.E., Taylor K., Whitehead S., Barrell B.G.; "Deciphering the biology of Mycobacterium tuberculosis from the complete genome sequence.";
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NP_BIND
CONFLICT
                                       SEQUENCE FROM N.A.

STRAIN-CDC 1551 / Oshkosh;

Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., White O.,

Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., Hickey E.,

Peterson J., DeBoy R., Dodson R., Gwinn M.L., Haft D., Hickey E.,

Kolonay J.F., Nelson W.C., Umayam L.A., Ermolaeva M.D., Salzberg

Belchet M., Utterback T., Weldman J., Khouri H., Gill J., Mikula
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00006; ATP-synt_ab;
SMART; SM00357; CSP; 1.
TIGRFAMs; TIGR00767; rho; 1.
                                                                                                                                                                                                                                                                                                                                          STRAIN-H37Rv;
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                                                                                                                                                                                                                                                                                                                                                                                                                   Bacteria; Actinobacteria;
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laboratory strains.";
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               Whole genome comparison of
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P03002;
                                                                                                                                                     393:537-544(1998).
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ipR002059; cold_shock.
ipR004665; Term_rho.
)006; ATP-synt_ab; 1.
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690 AA;
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               Mycobacterium tuberculosis clinical
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G -> P (IN REF. 2;
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Pred. No. 5
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(RNP1)
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ID TN14_H
AC 043557
DT 16-OCT
DT 15-JUN
DE TUMOY
DE MECHAT
GN TNESF1
OS EUKARY
OC Mammal
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Best Local
                                                                                                                                                                                                                                                                  TN14_HUMAN STANDARD; PRT; 240 AA. 043557; 075476; 096LD2; Q8WVFB; 16-OCT-2001 (Rel. 40, Created) 16-OCT-2001 (Rel. 40, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update) Tumor necrosis factor ligand superfamily member
                                                                                                                                                     INFSF14 UN LIL.
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Eukaryota; Futheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a between the Swiss Institute of Bioinformatics and the EMBI
                                                                                                                                                                                                                                    mediator-ligand) (HVEM-L).
TNFSF14 OR LIGHT OR HVEML.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                        Mauri D.N., Ebner R., Montgomery R.I., Ko
                                                                       SEQUENCE FROM N.A. MEDLINE-98122340; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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                                                                                                                                            NCBI_TaxID=9606;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14 PLPRSLGSRDGGA----VRQAQPPAPMAARRSQRRRG-----R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBCELLULAR LOCATION: Integral membrane SIMILARITY: TO M. LEPRAE ML2433.
       C.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KTEDIASTLIAVAVGALITIGP-LALLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLEEFSAT-----AASSLGPQLRLCQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QPEPRWPKSPPQDRRESGPELSEYPRPLRHTHSDRAPAGPPSGAEHMSPDPVEHYPDLWV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DQDPSELNPQTEESQDPAPFLNRLVRPRR-----SAPKGRKTRARRAI----AAHY-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ---GALVVLQSILAVAFGAGLF-----IAFDQLWRWNSIVALVLSVMVILGLVVSVRAVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RQIGEFIVTR------AGLYYLYCQVHFDE----GKAVYLKLDL-----LVDGVLALR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DVLDTEVGEAEAETEVREAQPGRGERHAAAAAAGTDVEGDGAAEARVARRALDVVPTLWR
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231 251 POTENTIAL.
257 277 POTENTIAL.
286 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                310 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                       . (ISOFORM 1).
PubMed=9462508;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           251 P
277 P
306 P
39 P
202 P
33092 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 93;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    POLY-ARG.
                                                                                                                                                                    Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4954027F694DF5C2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           246
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                        Kochel K.D., Cheung
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 There are no restrictions ong as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB
7.2;
                                                                                                                                                                    Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1;
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                                                                                                                                                                                                                                                                                     (Herpesvirus
                                                                                                                                                                                             Euteleostomi;
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                        T.C.,
Spear
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ProDom; PDU02017; TNF; 1.
SMART; SM00207; TNF; 1.
PROSITE; PS00251; TNF_1; FALSE_NEG.
PROSITE; PS50049; TNF_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                            EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
-I- FUNCTION: Cytokine that binds to TNFRSF$3/LTBR. Binding to the decoy receptor TNFRSF$6B modulates its effects. Activates NFKB, stimulates the proliferation of T cells, and inhibits growth of the adenocarcinoma HT-29. Acts as a receptor for Herpes simplex
                                                                                                                                                                                                                                                    MIM; 604520;
                                                                                                                                                                                                                                                                               Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <del>:</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Granger S.W., Butrovich K.D., Houshmand P., Edwards W.R., Ware ("Genomic characterization of LIGHT reveals linkage to an immune response locus on chromosome 1913.3 and distinct isoforms gene; by alternate splicing or proteolysis."; J. Immunol. 167:5122-5128(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. (ISOFORM 2), AN MEDLINE-21528948; PubMed-11673523;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     growth
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "LIGHT,
ligands
                                                                                                                                                                                   InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Strausberg R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TISSUE-Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DiPrinzio R., Emery
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ran K.B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-98438532; PubMed-9765287;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mmunity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUBUNIT: Homotriner.

SUBCELLULAR LOCATION: Type II membrane protein and secreted (1soform 1); Cytoplasmic (1soform 2).

(1soform 1); Cytoplasmic (1soform 2).

ALTERNATIVE PRODUCTS: 2 isoforms; 1 (shown here) and 2/LIGHT delta-TM; are produced by alternative splicing.

TISSUE SPECIFICITY: PREDOMINANTLY EXPRESSED IN THE SPLEEN BUT ALSO FOUND IN THE BRAIN. WEAKLY EXPRESSED IN PERIPHERAL LYMPHOID FOUND IN THE BRAIN. WEAKLY EXPRESSED IN PERIPHERAL LYMPHOID FOUND IN THE BRAIN. WEAKLY EXPRESSED IN PERIPHERAL LYMPHOID FOUND IN HEART, PLACENTA, LIVER, LUNG, APPENDIX, AND KIDNEY, OR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Biol. Chem. 273:27548-27556(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   s SWISS-PROT entry is copyright. It is produced through ween the Swiss Institute of Bioinformatics and the Ew European Bioinformatics Institute. There are no restr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PTW: N-glycosylated.

PTW: N-glycosylated.

PTW: The soluble form of isoform 1 derives from the memb form by proteolytic processing.

SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.

CAUTION: Ref. 4 sequence differs from that shown due to a frameshift in position 178.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AND NO EXPRESSION SEEN IN FETAL TISSUES, ENDOCINONHEMATOPOIETIC TUMOR LINES.
INDUCTION: UPRESULATED AFTER T-CELL ACTIVATION
                                                                                                                                                            PF00229;
                                                                                                                                                                                                                                                                                                                                                                 AY028261;
                                                                                                                                                                                                                                                                                                                                                                                               AF064090;
                                                                                                                                                                                                                                                                                                                                                                                                                       AF036581; AAC39563.1; -.
                                                                                                                                                                                                                                                                                                                                 BC018058;
                                                                                                                                                                                                                                                                            HGNC:11930; TNFSF14.
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for herpesvirus
y 8:21-30(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    non-profit
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    McDonnell P.C., Brigham-Burke M., Lyn S.D., Mi
de K., Spampanato J., Silverman C., Hensley P.,
                                                                                                                                                            TNF;
                                                                                                                                                                                                                                                                                                                                    AAH18058.1; ALT_FRAME
                                                                                                                                                                                                                                                                                                                                                                 AAK26160.1;
                                                                                                                                                                                                                                                                                                                                                                                            AAC25169.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              institutions as long as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the TNF superfamily, and lymphotoxin alpha are entry mediator.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AND PROCESSING
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 its content
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ware C.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a collaboration -
MBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ø
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HT29
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Best Local
                                                                                                                                                                                                                                                                              CERTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DISULFID
CARBOHYD
VARSPLIC
CONFLICT
CONFLICT
SEQUENCE
                                                                                                                      TISSUE-Lymphocytes;
MEDLINE-21383618; PubMed-11491535;
Villinger F., Bostik P., Mayne A.E.,
                                                                                                                                                                Cercopithecinae;
NCBI_TaxID=9531;
                                                                                                                                                                                  Cercocebus torquatus atys (Red-crowned mangabey) (Sooty mangabey) Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecidae;
                                                                                                               Weiss W.R.,
                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                          TNFSF6 OR FASL OR CD95L.
                                                                                                                                                                                                                            Tumor necrosis
                                                                                                                                                                                                                                  15-JUN-2002 (Rel. 41,
15-JUN-2002 (Rel. 41,
15-JUN-2002 (Rel. 41,
                                                                                                                                                                                                                                                             Q9BDN1;
                                                                                                                                                                                                                                                                     INF6_CERTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alternative
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                                                                                                                                                                                                                                                                                                                                                                HPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQI----
                                                                                                                                                                                                                                                                                                                                                                                            EPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTRARRAIAAHYEV
                                                                                                                                                                                                                                                                                                                                                                                                                 QTDIPFTRIGRSHRRQSCSVARVGLGLLL-LLMGAGLAVQGWFLLQLHWRLG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
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                                                                                                               Ansari A.A.;
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ligand superfamily memb
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Pred. No.
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MEMBER 14, SOLUBLE FORM.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TUMOR NECROSIS FACTOR MEMBER 14, MEMBRANE FO
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (POTENTIAL)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Glycoprotein; Signal-anchor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (GLCNAC. .
                                                                                                                       King C.L.,
                                                                                                                                                                                                                                                                     280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1;
                                                                                                                                                                                                                           member 6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 240
                                                                                                                        Genain C.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FORM
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                                   in the induction of suicide of mature TNFRSF6B/DcR3
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         NFC4_HUMAN STAI
Q14934;
16-OCT-2001 (Rel. '
16-OCT-2001 (Rel. '
16-OCT-2001 (Rel. '
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                                                           HUMAN
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PRINTS; PR01234; TNECROSISFCT.
Probom; PB002012; TNF; abc; 1.
SMART; SM00207; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; AF344847; AAK37606.1; -. HSSP; P01375; 4TSV.
                                                                                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cytokine; Apoptosis;
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  Nuclear factor of
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                                                                                                 232
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           proteolytic processing (By similarity).
SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PTM: The soluble form derives from the membrane form
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SWISS-PROT entry is copyright. It is produced through a en the Swiss Institute of Bioinformatics and the EMBI
                                                                                               CTTGQMWAHSSYLGAVFNLTSTDHLY-----VNVSELSLVNFEESQ--TFFGLYKL
                                                                                                                   CLEEFSATAASSLGPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQV 283
                                                                                                                                                          YNRQIGEFIVTRAGLYYLYCQVHFDEGKA-----VYLKLD------LLVDGVLALR
                                                                                                                                                                            QIGHP---SPPPEKKEQRK--VAHLTGKPNSRSMPLE-----WEDTYGIVLLSGVK
                                                                                                                                                                                              RLVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEA-RINSSSPLR
                                                                                                                                                                                                                  GLCLLVMFFMVLVALVGLG--LGMFQLFHLQKEL-----AELRESTSQKHTASSLEK 128
                                                                                                                                                                                                                                    GLGLALACUGLLLAVVSLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLN
                                                                                                                                                                                                                                                        LPCPTSVPRRPGQRRPPPPPPPPPPPLP------PPPPPPLPPLPPLKKRGNHST
                                                                                                                                                                                                                                                                           LPLPRSLGSRDGGAVRQAQPPAPMAARRSQRRRGRRGEPGTALLVPLAL------
                                                                                                                                     YKK--GGLVINETGLYFVYSKVYF-RGQSCTNLPLSHKVYMRNSKYPQDLVMMEGKMMSY
                                                                                                                                                                                                                                                                                              l Similarity
62; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IPR000478;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IPR003636; TNF_abc
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                                                 ·STANDARD;
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40, Created)
40, Last sequence update)
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40, Last annotation update)
activated T-cells, cytoplasmic 4 (T
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101
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                                                                                                                                                                                                                                                                                                                                      31407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Transmembrane; Glycoprotein; Signal-anchor.

TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY
MEMBER 6, MEMBRANE FORM.
                                                                                                                                                                                                                                                                                                       6.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TNF_family.
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                                                                                                                                                                                                                                                                                              44;
                                                                                                                                                                                                                                                                                              Score 92; DB 1
Pred. No. 2.4;
44; Mismatches
                                                                                                                                                                                                                                                                                                                                    N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
729EA60067B7D398 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                    CYTOPLASMIC (POTENTIAL).
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY MEMBER 6, SOLUBLE FORM (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                   CLEAVAGE (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                 EXTRACELLULAR (POTENTIAL)
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                                                 PRT;
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                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                            174
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between
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                                                                  DOMAIN
                                                                                                                  InterPro; IPR002909; IPT_TIG
InterPro; IPR000451; NF_Rel_
Pfam; PF01833; TIG; 1.
SMART; SM00429; IPT; 1.
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                                                                                                                                                                  TRANSFAC; T02462; -.
Genew; HGNC:7778; NFATC4
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                                                                                               PROSITE;
                                                                                                                                                                                     EMBL; L41066; AAA79175.1;
                                                                              Repeat;
                                                                                      Transcription regulation;
                                                                                                          PROSITE;
                                                                                                                                                                             TRANSFAC;
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                                                                                                                                                          602699;
                                                                            Phosphorylation
                                                                                               PS01204; REL_1; PS50254; REL_2;
 114
114
213
213
277
297
298
430
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POLY-PRO.
NUCLEAR LOCALIZATION SIGNAL DNA-BINDING.

SP 2 (APPROXIMATE).

NF_Rel_dor_fam

way

FALSE_NEG

Activator; Nuclear protein;

DNA-binding;

CALCINEURIN-BINDING
2 APPROXIMATE SP REI

REPEATS

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MEDLINE-95269130; PubMed-7749981;
Hoey T., Sun Y.-L., Williamson K., Xu X.;
"Isolation of two new members of the NF-A'
characterization of the NF-AT proteins.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens (Human).
Homo sapiens (Human).
Thervota; Metazoa; Chordata;
Thervia; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              transcription factor NFAT3) (NF-ATc4) (NF-AT3). NFATC4 OR NFAT3.
                                    use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           calcineurin, and NF-AT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Crabtree G.R.; Ceneric signals and specific outcomes: signaling
or send an email to license@isb-sib.ch).
                  entities requires a license agreement
                                                                      the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-99189746; PubMed-10089876;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mmunity 2:461-472(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FUNCTION: PLAYS A ROLE IN THE INDUCIBLE EXPRESSION OF CYTOKINE GENES IN T CELLS, ESPECIALLY IN THE INDUCTION OF THE IL-2 AND 4 (BY SIMILARITY).
                                                                                                                                                     CALCINEURIN (BY SIMILARITY).
SIMILARITY: BELONGS TO THE REL/DORSAL FAMILY.
                                                                                                                                                                                           PTM: PHOSPHORYLATED BY NFATC-KINASE; DEPHOSPHORYLATED BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUBUNIT: MEMBER OF THE MULTICOMPONENT NFATC TRANSCRIPTION COMPLEX
                                                                                            SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96:611-614(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (See http://www.isb-sib.ch/announce,
                                                    There are no restrictions ng as its content is in
                                    Usage
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Best Local
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Kumaran M., Rao M.R.S.;
Kumaran of the cDNA of t)
"Cloning of the cDNA of t)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MMUSE STANDARD.

MLHI_MOUSE STANDARD.

Q9JK91; Q62454;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
16-OCT-2001 (rel. 40, Last annotation update)
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SEQUENCE
                                                                              EMBL;
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Mus musculus (Mouse).

Mus musculus (Mouse).

Mus musculus (Mouse).

Metazoa; Chordata;

Metazoa; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                              modified and this statement is not removed. Usage by and foentities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cell 85:1125-1134(1996).
-I- FUNCTION: PROBABLY INVOLVED
-I- SUBUNIT: HETERODIMER OF MLHJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 1-151 FROM N.A.
MEDLINE-96270514; PubMed-8674118;
MEDLINE-96270514; PubMed-8674118;
MEDLINE-96270514; PubMed-8674118;
MEDLINE-96270514; PubMed-8674118;
MEDLINE-96270514;
MEDLINE-96
                                           MGD;
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Pred. No. 9;
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MEDLING-97184182; PubMed-9030594;
Shibata T., Shimoyama Y., Gotoh M., Hirohashi Shibata T., Shimoyama Y.,
Gotoh M., Hirohashi Shibata T., Shimoyama J.,
Ti cadherin, by protein interaction cloning.";
J. Biol. Chem. 272:5236-5240(1997).
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01-0CT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
16-0CT-2001 (Rel. 40, Last annotation updat
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Pfam; PF01119; DNA_mis_repair;

Pfam; PF02518; HATPase_c; 1.

TIGRFAMs; TIGR00585; mutl; 1.

PROSITE; PS00058; DNA_MISMATCH,
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                                                                 MYOGENIC PROGRAM AND MAY PROVIDE A TRIGGER FOR
DIFFERENTIATION.
SUBCELLULAR LOCATION: Type I membrane protein.
SIMILARITY: CONTAINS 5 CADHERIN DOMAINS.
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Search completed: May 8, 2003, 02:20:16 Job time: 12.6012 secs
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Best Local Similarity
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MIM; 114019;
                                                                                                                                                                                                                                                                                                                                                                        CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cell adhesion; Glycoprotein; Transmembrane; Calcium-binding; Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRINTS; PRO0205; CADHERIN.
SMART; SM00112; CA; 4.
PROSITE; PS00232; CADHERIN_1; 2.
PROSITE; PS50268; CADHERIN_2; 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR002126; Cadherin.
InterPro; IPR000233; Cadherin_C_term.
Pfam; PP00028; cadherin_5.
Pfam; PF01049; Cadherin_C_term; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; BC008951; AAH08951.1; -. HSSP; P15116; 1NCJ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; D83542; BAA12012.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
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                                                                                                                                                                                                          533 SLSQVNVSHARL-RPRHQVPEGLHRLSLLLRDSG-----QPP----QQREQPLNVTVCRC 582
                                                 133 GRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFI 189
                                                                                                       641 HGPQDDLRDNVLNYDEQGGEEDQDAYDISQLRHPTALSLPLGPPPL--
                                                                                                                                                       583 GKDGVCLPGAAAL--LAGGTGLSLGALVIVLASALLLLVLVLLVALRARFWKQSRGKGLL 640
                                                                                                                                                                      46 GRRGE--PGTALLVPLALGLGLALACLGLLLLA------VVSLGSRASLSAQEPAQ---
                                                                                                                                                                                                                                   2 SLLDFEISARRLPLPR------RR 45
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27.4%;
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                                                                                                                                                                                                                                                                                                                    88915 MW;
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CADHERIN 3.
CADHERIN 4.
CADHERIN 5.
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                17;
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                                                                                                                                                                                                                                                                                                                                                                                                                           CADHERIN 1.
CADHERIN 2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MUSCLE-CADHERIN.
EXTRACELLULAR (POTENTIAL).
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                                                  -----PRVLPTSPL----DIADFI 715
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Result
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Maximum DB
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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Listing first 45 summaries
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GenCore version 5.1.5 Copyright (c) 1993 - 2003 Compugen Ltd
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RESULT 1 138427 14-1BB ligand - human C;Species; Homo sapiens (man) C;Cates; Smith, C.A.; Tough, T.W.; Davis-Smith, T.; Armitage, R.J.; Falk, Eur. J. Immunol. 24, 2219-2227, 1994 R;Alderson, M.R.; Smith, C.A.; Tough, T.W.; Davis-Smith, T.; Armitage, R.J.; Falk, Eur. J. Immunol. 24, 2219-2227, 1994 R;Alderson, M.R.; Smith, C.A.; Tough, T.W.; Davis-Smith, T.; Armitage, R.J.; Falk, Eur. J. Immunol. 24, 2219-2227, 1994 R; Alderson, M.R.; Smith, C.A.; Tough, T.W.; Davis-Smith, T.; Armitage, R.J.; Falk, Eur. J. Immunol. 24, 2219-2227, 1994 R; Aritales; Discussion: 138426; MUID:94374434; PMID:8088337 R; Rseidues; Decivinary; translated from GB/EMBL/DDBJ R; Accession: 138427 R; Score 106.5; DB 2; Length 254;	5.5 5.9 563 2 AE305	probable non- hypothetical hypothetical probable comp hypothetical probable comp hypothetical 1-phosphatidy 1-phosphatidy 1-phosphatidy 53 ATP-dependent ClpB-like pro hypothetical probable olig probable chem hypothetical hypothetical hypothetical hypothetical hypothetical hypothetical	
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A; Accession: S27224

RESULT S27224

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R;White, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, M.; Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
Science 286, 1571-1577, 1999
Science 286, 1571-1577, 1999
A;Title: Genome sequence of the radioresistant bacterium Deinococcus radiodurans F
                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Gene: DR2516
A; Map position: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: GB:AE002081; GB:AE000513; NID:g6460337; PIDN:AAF12062.1; PID:g64603A;Experimental source: strain R1 C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Reference number: A75250; MUID:20036896; PMID:10567266
A;Accession: A75264
A;Status: preliminary
A;Molecule type- """
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-375 <WHI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hypothetical protein - Deinococcus radiodurans (strain R1) C;Species: Deinococcus radiodurans C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_c
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A:Molecule type: mRNA
A:Residues: 1-1323 cIKE>
A:Cross-references: EMBL:D12822
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Best Local S
Matches 69
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                          232 ATAASSLGPQLRLCQVS--
                                                                                                                                                                   137 RARRAIAAHYEVHPR-PGQDGAQAG--VDGTVSGWEEARINSSSPLRYNRQIGE----F 188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           106
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                                                          VVADADAQEVYELVAGLFADWQPGEDRPMPAHFQPGLRLHL---
                                                                                                                                TDRLAVQARAATFPRLPGDPGAGFGHPISGTLAGLE--RLSAASLRAHWARFGQRGSVLG 147
                                                                                                                                                                                                                                                 SLGSRASLSAGE-PAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKT 136
                                                                                                                                                                                                                                                                                        GRGHRCQPTPGRAATARRLRRPGRAPGRRGQPGSHPAARQRLRADLGAALA----LVA 58
                                                                                                                                                                                                                                                                                                                            GAVRQAQPPAPMAA-----RRSQRRRGRRGEPGT--ALLVPLALGLGLALACLGLLLAVV 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIG 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AKPPPPPQPLPSPAYPAARPPPGPAPFVPRERAAADRWRRAKG-TGPPGGAALADGFHRY 961
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23.7%;
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24.0%; Pred. No. 1.5;
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Pred. No. 3.2;
21; Mismatches 97; Indels 6
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                                                                                            -CQVHFDEGKAVYLKLDLLVDGVLALRCLEEFS 231
-GLLALRPGSSLRIRT
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                    263
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A; Residues: 1-878 <KOE>
A; Cross-references: EMBL: AL117455
                                                                                                                                                                                                                                                                                                                                                                                                   hypothetical protein DKFZp586J0917.1 - human (fragment)
C:Species: Homo sapiens (man)
C:Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
                                                                                                                                                                        A; Note:
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A; Accession: T17245
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A;Residues: 1-378 <STO>
A;Cross-references: GB:AE005673; NID:g13421902; PIDN:AAK22668.1; GSPDB:GN00148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R; Nierman, W.C.; Feldbl
B.; Laub, M.T.; DeBoy,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Reference number: A87249; A; Accession: H87333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwin, J.; Ermolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001
A; Title: Complete Genome Sequence of Caulobacter crescentus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 20-Apr-2001
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                                                                                                           Query Match
Best Local :
                                                                                                                                                                                          Genetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
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                                                 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              228 VVATVAGRVAALPVEAGQTVGVGAAVAVLTPGDSALVAEL-YAPSRAAGFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      130 TERLTLARAEVARAETIAAQGFLSPRE----LQARRSAELAVQQEASTLSSQALSYERQI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             132 KGRKTRAR-----RAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQI 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     82 --SLGAQSSAAGSRAAATQAALAAESRQ-----LTQRRAALNRELAEAKRSLALQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        76 VVSLGSRASLSAQEPA--QEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRS--AP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19 LGSRDGGAVRQAQPPAPMAARRSQRRRGRR---GEPGTALLVPLALGLGLALACLGLLLA 75
                                                                                                                                                                   DKFZp586J0917.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          36 LAARQGGIVANVHV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
RQIPSAEDLETDGGGPGQVVDDGLEHRELGHGQPEARGPAPLQQHPQVLLWEQQRLAGRL 386
                                           RRLPLPRSLGSRDGGAVR-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GEFIVTRAGLYYLYCQVHFDEGKAVYLKLDL---LVDGVLALRCLEEFSATAASSLGPQL 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GEV---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    y secretion protein [imported] - Caulobacter crescentus
Caulobacter crescentus
                                                                                       . Similarity 46; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      73;
                                                                                                                                                                                                                                                                                                                                                Beyer, A.; Mewes, H.W.; Gassenhuber, J.; Wiemann,
ne Protein Sequence Database, September 1999
                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Elsen, J.; Heidelberg DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; K
                                                                                                                                                                                                       adult uterus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6.9%;
25.1%;
                                                                                                     6.98;
                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----DARLAAIPIDLQAARAEAASTLAGLEQ-QATQVEAQGRYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MUID:21173698;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----REGDRVVVGQPIATLTLSSALEGGDSFAVLSR--- 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    29;
                                                                                                     Score 99; DB 2;
Pred. No. 5.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 99.5;
Pred. No. 1
                                                                                Mismatches
                                                                                                                                                                                                         clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --LRPGSSLRIRTLPWAHLKAAPFL 275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                           ----QAQPPAPMAAR-----RSQRRRGR-
                                                                                                                                                                                                       DKFZp586J0917
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  106;
                                                                                  67; Indels
                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 378;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                        878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Venter,
                                                                                56;
                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        185
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S41710

S41710

mitosis-specific cyclin 2 - garden snapdragon

C;Species: Antirrhinum majus (garden snapdragon)

C;Species: Antirrhinum majus (garden snapdragon)

C;Date: 13-Jan-1995 #sequence_revision 13-Jan-1995 #text_change 16-Jul-1999

C;Accession: S41710

R;Fobert, P.R; Coen, E.S.; Murphy, G.J.P.; Doonan, J.H.

EMBO J. 13, 616-624, 1994

A;Title: Patterns of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation revealed by transcriptional regulation of cell division revealed by transcriptional regulation of cell division revealed by transcriptional regulation revealed by transcriptional
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R;Saunders, D.C.; Harris, D.; James, K.D.; Parkhill, J.; Barrell, B.G.; Raja submitted to the EMBL Data Library, August 1999
                                                                                                                     A; Gene: cyc2
C; Superfamily: cyclin
C; Keywords: cell cycle
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                                                                                                                                                                                                                    C; Genetics:
                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-441 <FOB>
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A; Residues: 1-206 <SAU>
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                                                                                                                                                                                                                                                     A; Cross-references: EMBL: X76123;
                                                                                                                                                                                                                                                                                                                                          A;Status: nucleic acid sequence not shown
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Cross-references: EMBL:AL109663; PIDN:CAB52000.1; GSPDB:GN00070; SCOEDB:SC4A10
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   Matches
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                                Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      I-DAYSAPRALQRRAR-----ELGMVPGGDPAFLDPDGTVKGVPSPAPAAATPL 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VRPRRSAPKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPL 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ELQSVHSERH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GPRDPGKI-QTTPPRGGRVSRKPELKGRAARLARLLPTGGSRGQAARAPFVLLVVVLLGG
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               h 6.8%;
Similarity 27.3%;
                                Similarity
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   Conservative
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                                                                                                                     control; cell division control; mitosis
                             6.7%;
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   44;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18;
                             Score 97;
Pred. No.
                                                                                                                                                                                                                                                  NID: g425262;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 98;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
   Mismatches
                                   w
                                                          DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 2;
                                                                                                                                                                                                                                              PIDN:CAA53729.1; PID:g425263
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   104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64; Indels
                                                          Length 441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 206;
Indels
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74;
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Gaps
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15;
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probable cation-transporting ATPase - Streptomyces coelicolor C;Species: Streptomyces coelicolor C;Species: Streptomyces coelicolor C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 18-Aug-2000 C;Accession: T36946
R;Seeger, K.J.; Harris, D.; Thomson, N.R.; Parkhill, J.; Barrell, B.G.; Raj
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
T36946
RESULT
T15838
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C; Genetics:
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A; Residues: 1-776 <SEE>
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   213 KLDLLVDGVLALRC-----LEEFSATAASSLGPQLRLCQVSGLLALRPGS 257
                                                                                                                                                                                                                                                                                                                                                                                                                                              47
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                                                                                                                                                                                                                                                                                                                                                                                                    73 RRGHAGVDLIAVLALGGTLAVGEYLAGVLIALMLATGRTLEGAAQRRASHDLHALLAHAP 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    70 ANAEAAAAENNKNSLAVNAKGADGALPIKRAVARVPVQKKTVKSKPQEIIEISPDTEKKK 129
                                                                               LVVATPCPLLLAAPVAVVSGL
                                                                                                                   -IRTLPWAHLKAAPFLTYFGL
                                                                                                                                                                                                   LVDGVLALRCLEEFSATAASSLGPQLRLCQ------VSGLLALRPGSSLR----
                                                                                                                                                                                                                                           RVESTEAVLDESVLTGEPLQVTRQRGEGARSGAVNAGGAFDL----
                                                                                                                                                                                                                                                                                 TVSGWE---EARINSSSPLRYNRQIGE----FIVTRAGLYYLYCQVHFDEGKAVYLKLDL 216
                                                                                                                                                                                                                                                                                                                                                                                                                                            RRGEPGTALLVPLALGLGLALA--CLGLLLA-VVSLGSRASLSAQEPAQEELVAEEDQDP 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TIN-IVDRYLASKTTSRRELQLLGMSSMLIASKYEEIWAPEVNDLVCISDGS
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                                                                                                                                                                                                                                                                                                                           RSARRTGDG-----VVR----VPLSEITAGDALVVGPGEVVP----
                                                                                                                                                                                                                                                                                                                                                              SELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SGWEE-----ARINSSSPLRY---NRQIGEFIVTRAGLYYLYCQVHFD---EGKAVYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VEYVEDMYKFYKSAENDSRPHDYMDSQPEINEKM--RAILIDWLVQVHYKFELSPETLYL
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                                                                                                                                                             --AQQAGAESAPVVRLADRYAAWFLPLALATAALAWLVSGSAVRAVAV
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Pred. No. 1:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
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hypothetical protein C54D2.5 - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 17-Mar-2000
C;Accession: T15838
R;Minx, P.

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RESULT 10
D70745

hypothetical protein Rv0497 - Mycobacterium tuberculosis (strain H37RV)
C; Species: Mycobacterium tuberculosis
C; Date: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 22-Oct-1999
C; Accession: D70745
R; Cole, S; T; Brosch, R; Parkhill, J; Garnier, T; Churcher, C; Harris, D; Gordon, S; Connor, R; Davies, R; Devlin, K; Feltwell, T; Gentles, S; Hamlin, N; Holroyd, S, Rajandream, M.A; Rogers, J; Rutter, S; Seeger, K; Skelton, S; Squares, S.
Nature 393, 537-544, 1998
A; Authors: Sqares, R; Sulston, J.E; Taylor, K; Whitehead, S; Barrell, B.G.
A; Title: Deciphering the biology of Mycobacterium tuberculosis from the complete genome A; Reference number: A70500; MUID:98295987; PMID:9634230
A; Accession: D70745
A; Status: preliminary, nucleic acid sequence not shown; translation not shown
A; Molecule type: DNA
A; Residues: 1-310 <COL>
A; Experimental source: strain H37Rv
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A, Description: The sequence of C. elegans cosmid C54D2.
A, Reference number: Z18415
A, Accession: T15838
A, Saccession: T15838
A, Status: preliminary; translated from GB/EMBL/DDBJ
A, Molecule type: DNA
A, Residues: 1-1657 <MIN>
A, Residues: 1-1657 <MIN>
A, Cross-references: EMBL:U37548; NID:g1017804; PID:g1017809; PIDN:AAA79201.1; CESP:C54D2
C; Genetics:
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                                                                                                                                                                                                                                            14 PLPRSLGSRDGGA----VRQAQPPAPMAARRSQRRRG------
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DQDPSELNPQTEESQDPAPFLNRLYRPRR----SAPKGRKTRARRAI---AAHY----
                                                                  AGPDAHASQSPAANGR-------VQVGEAAPQSPAEPVAEQ-VAEEPTRTVYWS 109
                                                                                                                                                                                                        PETESSGNRQISVAELLARQGVTGAP--ARRRRRRGDSDAITVAELTGEIPIIRDDHHH
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                                                                                                                                  RGEPGTALLVPLALGLGLALACLGLLLAVVSLGSRASLSAQEPAQEELVAEE-----
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                                                                                                                                                                                                                                                                                                                                                                                 Score 93; DB Pred. No. 4.8;
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Pred. No. 29;
8; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
                                                                                                                                                                                                                                                                                                                                                                                                              2;
                                                                                                                                                                                                                                                                                                                                                  103;
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                                                                                                                                                                                                                                                                                                                                                                                                                 Length 310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 1657;
                                                                                                                                                                                                                                                                                                                                              Indels 120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                           ----R 47
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                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                        63
146
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RESULT 12 T35203

A; Gene: SCOEDB: C; Superfamily:

SCOEDB:SC5B8.19c

two-component sensor histidine kinase; sensor histidine

kinase

homolog

EMBL:AL022374; PIDN:CAA18527.1; GSPDB:GN00070;

SCOEDB:SC5B8.19c

Query

Match

6.48;

Score

92; 몂 2;

Length 566;

C; Genetics:

A; Experimental source:

strain

A3(2)

A; Molecule type: DNA A; Residues: 1-566 <SEE> A; Cross-references: EMBl

A; Reference number: Z21571 A; Accession: T35203

A;Status: preliminary; translated

from GB/EMBL/DDBJ

R; Seeger, K.; Harris, D.; Parkhill, submitted to the EMBL Data Library,

J.; Barrell, B.G.; April 1998

Rajandream, M.A.

C; Accession: T35203

probable two-component sensor - Streptomyces coelicolor
C;Species: Streptomyces coelicolor
C;Date: 05-Nov-1999 #sequence_revision 05-Nov-1999 #text_change 31-Jan-2000

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RESULT 11
B34768
                                                                                                                                                                                                                                                                                                                                                                                                R;Fraser, K.M.; Hill, D.F.; Mercer, A.A.; Robinson, A.J. Virology 176, 379-389, 1990
A;Title: Sequence analysis of the inverted terminal repetition A;Reference number: A34768; MUID:90266454; PMID:2129563
A;Accession: B34768
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C; Species: Orf virus
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                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-351 <FRA>
                                                                                                                                                                                                                                                                                                                                                                                   A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Date: 23-Aug-1991 #sequence_revision 23-Aug-1991
                                                                                                                                                                                                                                                                                     Query Match
Best Local
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                                 192
333
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                                                                                                                                                                                                                             14 PLPRSLGSRDGGAVRQAQPPAPMAARRSQ-RRRGERGEPGTALLVPLALGLGLALACLGL
                                                                                                                                                                                                                                                                                  Local:
                               RAGLYYLYCQVHFDEG
                                                              PRRVRARRARROQRAHOR--RGRRARTRCSTS----RVVSKD---
                                                                                                                                                                                                PLPRRAAR---GRQRRGQPPPPPRARRAQQPRRRAPRAAAG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KTEDIASTLIAVAVGALITLGP-LALLQ
KERRYIRRVLLHFEDG
                                                                                                GRKTRARRAIAAHYE-VHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVT
                                                                                                                                                              LLAVVSLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPK 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---GALVVLQSILAVAFGAGLF----IAFDQLWRWNSIVALVLSVMVILGLVVSVRAVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RQIGEFIVTR-----AGLYYLYCQVHFDE----GKAVYLKLDL-----LVDGVLALR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DVLDTEVGEAEAETEVREAQPGRGERHAAAAAAGTDVEGDGAAEARVARRALDVVPTLWR 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QPEPRWPKSPPQDRRESGPELSEYPRPLRHTHSDRAPAGPPSGAEHMSPDPVEHYPDLWV 169
                                                                                                                                                                                                                                                              6.4%;
1 Similarity 23.0%;
45; Conservation
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348
                                 207
                                                                                                                                                                                                                                                                  18;
                                                                                                                                                                                                                                                                              Score 92; DB 2; Length 351; Pred. No. 6.6;
                                                                                                                               -ARRGRGPAPRQQQRQPRVQRAAAAQRRAQQRRQRQP
                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                73; Indels
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                                                                  -SREVGVMCDD
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                                                                                                                                                                                                                                                                                                                                 PID: 9332564
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RESULT 14
D83231
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A;Authors: Squres, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G. A;Title: Decliphering the biology of Mycobacterium tuberculosis from the complete A;Reference number: A70500; MUID:98295987; PMID:934230
A;Accession: A70611
A;Status: preliminary; nucleic acid sequence not shown; translation not shown
hypothetical protein PA3305 [imported] - Pseudomonas aeruginosa (strain PAO1) C;Species: Pseudomonas aeruginosa C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000 C;Accession: D83231
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A;Residues: 1-212 <COL>
A;Residues: 1-212 <COL>
A;Cross-references: GB:Z93777; GB:AL123456; NID:g3261726;
A;Experimental source: strain H37Rv
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Best Local S
Matches 53
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 24:5
Matches 66; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        136
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                                                                                                                                                                                                                                                                                                                                                      67
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                46 GRRGEPGTALLVPLALGLGL----ALACLGLLLAVVSLGSRASLSAQEPAQEELVAEE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 32
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                                                                                                                                                                                                                                                                                                                                                                                                                                          GRHG-----FGVGLRAIAEAAGVSAALVIHHFGSKEGL---RKACDDFVAEEIR 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AALRDYAHDMVLPSLEVYTEGLLADRAMYEAFLAEA
                                                                                                                                                                                                      -----EGKAVYLKLDLLVDGVLALRCL-EEFSATA 234
                                                                                                                                                                                                                                                                   ---DNAEEYLD----
                                                                                                                                                                                                                                                                                                         PGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFI-VTRAGLYYLYCQVHFD-----
                                                                                                                                                                                                                                                                                                                                                  SSKAAALKSNDPTTWLAQMAEIESYAPLMAYLVRSMQSGGELAKMLWQKMI------
                                                                                                                                                                                                                                                                                                                                                                                             -----DQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTRARRAIAAHYEVHPR 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLEEFSATAASSLGPQLRLCQVSGLLALR 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RGKVPLRDGD--GEIVGAVSVGIAYDSVRARLIHAIPGLFAYAGGALAVGALASWIISRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----PLRYNRQIGEFI-VTRAGLYYLYCQ---VHFDEGKAVY----LKLDLLVDGVLALR 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AERVREATRAEYVVVMDRQGVRWSHTDPERIGEVVSTDPGQALAGREVMEIDDGTLGRSA 158
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PPAPRTVMAMSSTPPVRRLRLGLPRRVFSQVLLMQLAIAAGVAVLATGLFLA--PLGDQL 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PPAPMAARRSQR----RRGRRGEP----GTALLVPLALGLGLALACLGLLLAVVSLGS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  53;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                                                                                                                                                                                                                              -EGVRAGTVKPSRDPRARARFLAITGGGGFLLYLOMHENPTDLR 168
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4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 91.5; D
Pred. No. 4.1;
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                                                                                                                                                                             204
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             59;
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Nature 406, 959-964, 2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Gene: PA3305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:AE004753; GB:AE004091; NID:g9949433; PIDN:AAG06693.1; A;Experimental source: strain PAO1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: DNA
A; Residues: 1-664 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                             Matches
  412
                                                                                                                                                                                             129
                                  224 LRCLEEFSATAASSLGPQLRLCQVSG--LLALRPGSSLRIRTLPWAHLKAAPFLTYFGL
                                                                       352 LFYGTRSALALLGLSVYWIYTAWPAASGAMLLAAVVCSLFANRDNAVAIGLSFLRGIVYA 411
                                                                                                                                                                                                                                                                                                           194 RQRQPQGLLNALSKIVEVDAQRDHAWFEGERGRRRAGALALLSRDLLSL-----LRT 245
                                                                                                                                                                                                                                                                      75
                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity nes 77; Conserv
                                                                                                                                                                                                                                                                                                                                                  28 RQAQPPAPMAARR-----SQR-----RRGRRGEPGTALLVPLALGLGLALACLGLLL 74
                                                                                                                                                                                                                                                                    AVVSLGSRASLSAQEPAQEE-----LVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRR 128
  I----
                                                                                                                EFIVTRAGL-----YYLY-----
                                                                                                                                                    SNDQ-RYLLTRCSVLLLKAVN-----AEKGMRAVASGEVEGRVGSAGTLSWHRDLQMA 351
                                                                                                                                                                                         SAPKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNR--QIG 186
                                                                                                                                                                                                                                  ARGVARQRARLSEEEERRVERWLAALASALEGTDPASMQALREELAQVA-----VEPQW
----PAAMLVSQWLLPQWNGFPLLCLAMGVPLFFATLGMAVPVTAGTATSFAI 461
                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                             6.3%;
25.8%;
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Pred. No. 15;
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A.; Larbig, K.;
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                                      280
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R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; C;Species: Pseudomonas aeruginosa
C;Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000
C;Accession: H83044 RESULT 15
H83044
2,4-dienoyl-CoA reductase FadH2 PA4814 [imported] - Pseudomonas aeruginosa (strain Hickey, Larbig, ď

A;Reference number: A82950; MUID:20437337; PMID:10984043 A;Accession: H83044 .; Lory, S.; Olson, M.V. Nature 406, 959-964, 2000 an opportunistic

A; Status: preliminary

A; Molecule type: DNA A; Residues: 1-681 <STO>

A;Cross-references: GB:AE004894; GB:AE004091; NID:g9951076; PIDN:AAG08199.1; GSPDB:G:A;Experimental source: strain PAO1

A;Gene: fadH2; PA4814 C;Superfamily: Methylophilus methylotrophus W3A1 trimethylamine dehydrogenase C; Genetics:

Query Match Best Local Local Similarity 6.3%; Score 91; DB 26.3%; Pred. No. 17; rative 31; Mismatches DB 2; Length 681

20;

В Qy Matches 442 σ FEISARRLPLPRSLGSRDGGAVRQAQPPAP----MAARRSQRRRGR-----Conservative 86; Indels 104; Gaps 47

Qy 밁 498 VLRGAPVGARVAIVGAGGIGFDVA--AFLVAAPSDG------OPRALGEWLAEWGVDLD 548 48 FRVRLERLGVDLRLGHR----VRQGELDGQFDDVVVATGIQPRRPRIDGIGGPTVLSYVD 497 -- RGEP-GTALLVPLALGLGLALACIGLLLAVVSLGSRASLSAQEPAQEELVAEEDQDPS 104

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-MODEL-frame+_p2n.model -DEV-xlp
-Q-/cgn2_1/USPTO_spool/US99245198/runat_06052003_170239_9605/app_query.fasta_1.846
-DB-N_Geneseq_101002 -QFMT-fastap -SUFFIX=rng -MINMATCH-0.1 -LOOPCL-0
-LOOPEXT-0 -UNITS-bits -START=1 -END--1 -MATRIX-blosum62 -TRANS-buman40.cdi
-LIST-45 -DOCALIGN-200 -THR_SCORE-pct -THR_MAX-100 -THR_MIN-0 -ALIGN-15 -
-MODE-LOCAL -OUTFMT-pto -NORM-ext -HRAPSIZE-500 -MINLEN-0 -MAXLEN-200000000
-USER-US09245198_@601_11_323_@runat_06052003_170239_9605 -NCPU-6 -ICPU-3
-NO_XIDXY -NO_MMAP -LARGEQUERY -NG_SCORES-0 -WAIT -DSPBLOCK-100 -LONGLOG
-DEV_TIMEOUT-120 -WARN_TIMEOUT-30 -THREADS-1 -XGAPOP-10 -XGAPEXT-0.5 -FGAPOP-6
-FGAPEXT-7 -YGAPOP-10 -YGAPEXT-0.5 -DELOP-6 -DELEXT-7
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 2000000000
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Ygapop 10.0
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Copyright (c) 1993 - 2003 Compugen Ltd.
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/SIDS2/gcgdata/geneseg/genesegn-emb1/NA1981.DAT:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result

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ALIGNMENTS

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CDS	Key		Homo sapiens.		graft rejection; ds.	cancer; autoimmu	TRELL; tumour ne		Homo sapiens tumour		21-JUL-1998 (fi		AAV18600; ·		AAV18600 standar	AAV18600	RESULT 1
1852	Location/Qualifiers				ds.	cancer; autoimmune disease; immune system; stimulation;	TRELL; tumour necrosis factor related ligand; tnf; treat		our necrosis factor related ligand (TREI		(first entry)				AAV18600 standard; cDNA; 1373 BP.		

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suppression;

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Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                          compositions for binding. Agents interfering with TRELL-receptor binding can also be screened for, can then be administered, optionally with interferon- gamma, to induce cell death or treat, suppress or alter immune responses (especially involving human adenocarcinoma cells) involving a signal pathway between TRELL and its receptor. The DNA sequence can be used in gene therapy for TRELL-related disorders in mammals (especially humans), e.g. tumours, by introducing into cells, and expressing, therapeutically effective amounts of a vector, e.g. a virus comprising a gene encoding TRELL. It may also be of use in the preparation of prepare probes for screening natural/synthetic DNAs for TRELL-encoding sequences
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07-AUG-1996;
18-OCT-1996;
                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The sequence is that encoding human tumour necrosis factor related ligand (TRELL). TRELL or active fragments can be included with a carrier in pharmaceutical compositions to treat cancer, autoimmune diseases or immune responses to tissue grafts, or to stimulate or suppress the immune system. It is useful to screen for TRELL receptors, by labelling with a detectable label and screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tumour necrosis factor related ligand - useful for, e.g. treating cancer, auto-immune disease and immune responses to tissue grafts
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SerGlnArgArgArgGlyArgArgGlyGluProGlyThrAlaLeuLeuValProLeuAla
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DB; AAW47525.
                                                                                                                   SerArgAspG1yG1yAlaValArgG1nAlaG1nProProAlaProMetAlaAlaArgArg
                                                   AGCCAGAGGCGGAGGGGGCGCCGGGGGAGCCGGCCCCTGCTGGTCCCGCTCGCG
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                                                                               HOMO
                                                                                                                                                                        Human; secreted protein; gene; ss; nutritional supplement; haemophilia;
                                                                                                                                                                                            Human cDNA encoding secreted protein #19.
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Gulukota
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The present sequence encodes a human tumour necrosis factor (TNF) an lymphotoxin homologue designated Apo-3 ligand. Apo-3 ligand has cytostatic activity. Apo-3 ligand can be used to induce apoptosis in mammalian cancer cells, to induce NF-kappaB-dependent transcription
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NF-kappaB-dependent transcription; JNK/SAPK-dependent response;
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                  Alignment Scores Pred. No.:
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21-APR-1999;
28-APR-1999;
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26-JUL-1999;
15-SEP-1999;
15-SEP-1999;
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                 Sequence 1353
                                                                                                                                 Claim
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breast cancer;
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DB; AAY95338.
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99US-0130232.
99US-0131445.
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The present sequence is that of cDNA clone DNA30879-1152

(ANTCC 209358) encoding human pRO207 (see ANY95338), which shows homology to several members of the tumour necrosis factor family, especially human lymphotoxin (23.4%). The cDNA was identified in a croetal kidney cDNA library following identification of an expressed sequence tag with homology to human Apo-2 ligand. A claimed method for inhibiting the growth of a tumour cell comprises exposing the tumor cell to PRO179, PRO207, PRO320, PRO219, PRO221, PRO224, PRO301, PRO526, PRO302, PRO320, PRO309 or PRO866 (see PRO328, PRO301, PRO526, PRO362, PRO365, PRO509 or PRO866 (see ANY95337-49), their agonists or chimeric polypeptides incorporating them. The tumour is especially a cancer selected from breast, ovarian, renal, colorectal, uterine, prostate, lung, bladder and central nervous system cancer, melanoma and leukaemia. Nucleic acids encoding PRO179 etc. are used in the recombinant production
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Novel composition to inhibit neoplastic cell growth or tumor in mammal comprises polypeptides PRO179, PRO207, PRO221, PRO324, PRO328, PRO301, PRO526, PRO362, PRO366 -
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s system cancer; melanoma; leukaemia; neo
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1 WI;
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                                      standard;
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human PRO207 polypeptide.
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31-AUG-1999
31-AUG-1999
31-SEP-1999
31-NOV-1999
01-DEC-1999
01-DEC-1999
01-DEC-1999
05-JAN-2000;
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11-MAR-1999;
11-MAY-1999;
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99US-140653P
99US-144758P
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(GETH J GENENTECH INC.

Ashkenazi AJ, Marsters CK, Pan J, Wood WI; Goddard A, Godowski PJ, Pan J, Pitti RM, Roy MA, Gurney Smith , ¥ Stone Hillan ğ

P-PSDB; 2002-205567/26. DB; AAU86129.

Thirty five nucleic acids encoding PRO polypeptides, useful for treating benign or malignant tumours, leukaemias and lymphoid malignancies, inflammatory, angiogenic and immunologic disorders

Claim 50; Fig 3; 302pp; English.

The present invention relates to the isolation of novel human PRO polypeptides and the polynucleotide sequences encoding them. The PRO polypeptides, agonists, antagonists or anti-PRO antibodies are useful for treating benign or malignant tumours (e.g. renal, kidney, bladder, breast, etc), leukaemias and lymphoid malignancies, other disorders such as neuronal, glial, astrocytal, hypothalamic, glandular, macrophagal, stromal and blastocoelic disorders, inflammatory, immune and angiogenic disorders. The polynucleotide sequences are also useful in gene therapy. ABK40254-ABK40288 encode for the human PRO polypeptides of the invention.

Sequence 1353 вр; 257 Α; 443 Ç 389 <u>ن</u> 264 Ħ, 0

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Matches:
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                                                  TNF; endothelium proliferative agent; sue grafting; vascularisation; apoptos
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                                                                      endothelium proliferative agent
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                   Location/Qualifiers
            /*tag-
      /product=
                                                                                                              cDNA; 1236
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                                                   apoptosis;
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CC Ribozymes, antisense RNA, antibodies or peptides, are used to treat TREPA-associated diseases, e.g. tumours and metastases (by inhibiting CC vascularisation), inflammation or a wide range of autoimmune conditions, CC conditions involving abnormal stimulation of epithelial cells (e.g. atherosclerosis), for birth control (inhibiting ovulation and placental CC formation) or other angiogenic conditions (e.g. ulcers).
                                                                                                                                                                                                                                                                                                                                 Sequence 1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Detecting nucleic acid encoding TREPA - treatment of autoimmune disease, tumours
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12-FEB-1997;
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DB; AAW29745.
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RESULT 7
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TREPA;
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10-FEB-1998;
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ng, by administering
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/product= "Human TREPA (TNF
proliferative agent)"
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The present invention relates to extracellular signal molecules, particularly members of tumour necrosis factor (TNF) family molecules designated as TREPA (TNF related endothelium proliferative agent). Soluble biologically active TREPA are used to treat TREPA-associated diseases, tumours or metastases. TREPA is used for inducing angiogenesis in human for promoting wound healing and for vascularising grafted tissue for successful grafting and to promote tissue grafts. The present sequence is a cDNA clone ID #690050 encoding human TREPA. Sequence 1236 BP; 225 A; 416 C; 358 G; 237 T; 0 other;
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US-09-245-198A-4 (1-284) x
                           LeuValProLeuAlaLeuGlyLeuGlyLeuAlaCysLeuGlyLeuLeuLeuAla
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                                                                           SerSerLeuGlyProGlnLeuArgLeuCysGlnValSerGlyLeuLeuAlaLeuArgPro
                                                                                                                                                       TyrTyrLeuTyrCysGlnValHisPheAspGluGlyLysAlaValTyrLeuLysLeuAsp
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The sequence represents a DNA from the expression vector pDC409-LZ-TWEAK, which encodes a fusion protein comprising a growth formone leader, a leucine zipper multimerisation domain, and the extracellular domain of human TWEAK. The fusion protein was used in the isolation of human TWEAK receptor (TWEAKR)-expressing clones from a COS cell human cDNA library. The TWEAK protein is a member of the tumour necrosis factor (TWF) family and induces anglogenesis. TWEAKR may therefore be used to screen for and develop TWEAKR agonists and antagonists for the modulation of angiogenesis, to be used in the treatment and diagnosis of human disease. The disorders comediated by angiogenesis include ocular disorders characterised by ocular neovascularisation such as diabetic retinopathy, neovascular glaucoma, retinopathy of prematurity, retrolental fibroplasia, rebensis, verific, and inflammatory diseases unch as arthritis, recumatism and psoriasis. Other treatable diseases include malignant and metastatic conditions such as sarcomas and carcinomas, benign tumours and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    corneal graft neovascularisation; psoriasis; metastatic condition; malignant tumour; sarcoma; carcinoma; benign tumour; haemophilic joint; preneoplastic condition; myocardial angiogenesis; wound granulation; scleroderma; vascular adhesion; telanglectasia; ischaemia; human; atherosclerotic plaque neovascularisation; coronary atherosclerosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ocular neovascularisation; diabetic retinopathy; neovascular glaucom retinoblastoma; retinopathy of prematurity; retrolental fibroplasia; rubeosis; uveitis; macular degeneration; arthritis; rheumatism; ds;
                                                                                                                                                                                                                                                                                                                                                                                            Modulating angiogenesis in a mammal for treating diseases mediated by angiogenesis, e.g. solid tumours and vascular deficiencies of cardiac peripheral tissue, by administering antagonist or agonist of TWEAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ocular neovascularisation; diabetic retinopathy; retinoblastoma; retinopathy of prematurity; retro
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P-PSDB; AAU03499.
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10-MAY-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     peripheral atherosclerosis; pDC409-LZ-TWEAK; TWEAK receptor; TWEAKR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein.
                                                                                                                                                                                                                                                                                                                                        Page 39-40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0172878.
2000US-0203347.
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                         Human TNRL3
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                                         18-JUN-1999
                                                                        AAX23424 standard; DNA; 1030
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                                                                                                                                                                                                                                                                                                                                      PheGlyLeuPheGlnValHis 284
                                                                                                                                        ProLeuArgTyrAsnArgGlnIleGlyGluPheIleValThrArgAlaGlyLeuTyrTyr
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                                                                                                          TTCGGACTCTTCCAGGTTCAC
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                         DNA.
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73.82%
                                        entry)
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Matches:
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Tumour necrosis factor receptor; signal transducer molecule; developmental abnormality; gestational abnormality; prosta

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Percent Similarity:
Best Local Similarity:
Query Match:
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                                                                                                                            US-09-245-198A-4 (1-284) x AAX23424 (1-1030)
                                                                                                                                                                                                                                                                                                                                CC receptor polypeptides: APO4, APO6, APO8 and APO9 or their active fragments, and isolated TMM related ligands 1 and 3 (TMRL1 and TMRL3) or their active fragments. APO4 is useful for diagnosing prostate cancer CC by determining levels of APO4 is useful for diagnosing prostate cancer CC by determining levels of APO4 in an individual. Prostate cancer can also be treated using APO4 selective binding agents linked to a therapeutic CC molety. APO4 polypeptides are also useful for identifying selective CC binding agents, useful in diagnosis/treatment of disease by binding of CC agents to the polypeptide/active fragment which is extracellular, or CC expressed on the cell surface. The binding is preferably performed in CC vivo. APO4 polypeptides/active fragments are also useful for screening CC for agonists and antagonists by binding and observing the changer in APO4 activity. Effective pharmacological agents useful in diagnosis or CC treatment of disease are also identified using APO4 polypeptides/active fragments and APO4 signal transducer molecules that specifically interact with a cytoplasmic domain of APO4 and detecting a change in level of APO4 activity. The method is performed in vivo or in vitro. APO polypeptides are all useful as immunogens for preparing antibodies. APO4 is also CC useful for diagnosis/creatment of developmental or gestational and contrasts. APO8 was transfected to human breast carcinoma cell line
                                                                                                                                                                                                                                           No.:
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P-PSDB; AAW93590.
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                                                                                                                                                                                                                                                                                         Sequence 1030 BP;
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and induced apoptosis
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/product= "TNRL3"
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RESULT 10
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07-AUG-1996;
18-OCT-1996;
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                                                                       GENEVA FACULTY MEDICINE
                                                                                                                                      97US-0040820.
96US-0023541.
96US-0028515.
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                                                                                                                                                                                                                                                                                                                                                                          /note= "tumour necrosis factor related ligand"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     diseases or immune responses to tissue grafts, or to stimulate or curve, autonomune system. It is useful to screen for TRELL receptors, by labelling with a detectable label and screening compositions for binding. Agents interfering with TRELL-receptor binding can also be screened for, can then be administered, or to prionally with interferon- gamma, to induce cell death or treat, suppress or alter immune responses (especially involving human cadenocarcinoma cells) involving a signal pathway between TRELL and its receptor. The DNA sequence can be used in gene therapy for TRELL-related disorders in mammals (especially humans), e.g. tumours, autoimmune and inflammatory diseases or inherited genetic disorders, by introducing into cells, and expressing, therapeutically effective amounts of a vector, e.g. a virus comprising a gene encoding TRELL. It may also be of use in the preparation of prepare probes for screening natural/synthetic DNAs for TRELL-encoding sequences and for antisense therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1168 BP;
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P-PSDB;
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                           GlnvalH1sPheAspGluGlyLysAlaValTyrLeuLysLeuAspLeuLeuValAspGly
                                                                                   TACGACCGCCAGATTGGGGAATTTACAGTCATCAGGGCTGGGCTCTACTACCTGTACTGT
                                                                                                  TyrAsnArgGlnIleGlyGluPheIleValThrArgAlaGlyLeuTyrTyrLeuTyrCys
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|AGCTGGGCAACGCTGTCTCCAGGAGCTTGACAGCAGCAGCAGAGGACCGC
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Chaudhary

(UNIW) UNIV WASHINGTON

P-PSDB; 1999-205191/17. DB; AAW93591.

New Tumor Necrosis Factor family receptor polypeptides and ligands useful for diagnosis and treatment of prostate cancer and developmental or gestational abnormalities

Example VII; Fig 13B; 156pp; English.

This invention describes isolated Tumor Necrosis Factor (TNF) family receptor polypeptides: APO4, APO6, APO8 and APO9 or their active fragments, and isolated TNF related ligands 1 and 3 (TNRL1 and TNRL3) or their active fragments. APO4 is useful for diagnosing prostate cancer by determining levels of APO4 in an individual. Prostate cancer can also be treated using APO4 selective binding years to a therapeutic moiety. APO4 polypeptides are also useful for identifying selective binding agents, useful in diagnosis/treatment of disease by binding of agents to the polypeptide/active fragment which is extracellular, or expressed on the cell surface. The binding is preferably performed in vivo. APO4 polypeptides/active fragments are also useful for screening for agonists and antagonists by binding and observing the changer in APO4 activity. Effective pharmacological agents useful in diagnosis or treatment of disease are also identified using APO4 polypeptides/active

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 Homo sapiens
                      28-SEP-1998
                                            AAV24140
                                                                AAV24140 standard;
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|CAGCAAGCTCTCCTGGGCCCCAGCTCCGTTTGTGCCAGGTGTCTGGGCTGTTGGCGCTG
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      /*tag=
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                                                                                                                          acyltransferase; phytosterol;
O-acyltransferase; heat shock
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                                                                                                                                                                                                                                                                                                                ВP
                                                                                                                                                                                     acyltransferase
                                                                                                                          heat shock; cold shock;
                                                                                                                                                                                     gene
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence is a putative coding sequence for a corn lecithin:cholesterol acyltransferase (also known as phosphatidylcholine-sterol O-acyltransferase). This enzyme is found associated with high-density lipoproteins and Apolipoprotein-Al and rassociated with high-density lipoproteins and Apolipoprotein which increased lipid metabolism and membrane fluidity, and therefore incresistance to heat and/or cold shock, to alter the content of phytos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Polynucleotide encoding plant lecithin:cholesterol acyltransferase enzyme useful for producing transgenic plants and for producing antibodies specific to which is useful for screening cDNA expression libraries
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CATCCTCGGCCACAGCTTCGGCGGCATGGTCGCGCTCGAGTTCGTCCGGAACACTCCGCC
                                                                                                                                                                                                                                                                                       LeuGlyLeuGlyLeuAlaLeu-----
                                                                                                                                                                                                                                                                                                                                                                                                           CACAAGAGCCTTCAGCCACAAGAACCCCCTCAAGTCAGACTGGTGCCTCGGAAAGCTGAG
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                                          AspProAlaProPheLeuAsnArg----
                                                                                                                      LeuValAlaGluGluAspGlnAspProSerGluLeuAsnProGlnThrGluGluSerGln
                                                                                                                                                                GGAGCTGATGGAGCTGGTCGA----
                                                                                                                                                                                                      AlaValValSerLeuGlySerArgAlaSerLeuSerAlaGlnGluProAlaGlnGluGlu
                                                                                                                                                                                                                                               CTTCCGCTACGCGCCGCCGCCCGGCCAGACGTCCGAGGTGTACTCCCGCTACTTCAA
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                                                                                  -GGCCGCGAGCGAGAGGACCCG
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/EC_number= "2.3.1.43"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JIP-1; JNK-interacting protein; c-Jun NH2-terminal kinase; signal transduction; inhibitor; mouse; neurodegenerative disease; Parkinson's disease; Alzheimer's disease; blood clot; stroke; malignancy; cancer; leukaemia; autoimmune disease; inflammation; apoptosis; therapy; diagnosis; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Murine JNK-interacting protein 1 (JIP-1) cDNA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 131 ProLysGlyArgLysThrArgAlaArgAlaIleAlaAlaHisTyrGluValHisPro 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTGGTGTTCTGGGGCGAAGACTTCGACGCGGCCCCGGAGGTGGCGGCGTACGGG 1198
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sLeuGluGluPheSerAlaThrAlaAlaSerSerLeuGly-----ProGlnLe 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCGCTCGTGGTCACCAGGGAGCGGAACTAC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      yGluPheIleValThrArgAlaGlyLeuTyrTyrLeuTyrCysGlnValHisPheAspGl 206
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCCCATGACGTACATCAGCGGGGTC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         uArgLeuCysGlnValSerGlyLeuLeuAlaLeuArgProGlySerSerLeuArgIleAr 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCGGAGCCCTTCAGGAGACGGGCCGTCCCCAAGATGGGCAGCTTCGCGGCGGCCGATGGT 1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    uGlyLysAlaValTyrLeuLysLeuAspLeuLeuValAspGlyValLeuAlaLeuArgCy 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -GlyTrpGluGluAlaArgIleAsnSerSerSerProLeuArgTyrAsnArgGlnIleGl 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGTCCTGGTCGCGCCGACGCTCCCCCGGCGGCGTTCCTGGAGCCGGTGCGCAACTTCGCGTC 831
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                                                                          Dickens M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                         97US-0819177
                                                                                                                                                                                                                       98WO-US08513
                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers 180..2162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ------AspGlyAlaGln-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2832
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alignment Scores:
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(JIP-1, see AAW81625), a novel cytoplasmic anchor protein that specifically binds to and inhibits the biological effects of JNK (c-Jun NH2-terminal kinase), including the initiation of apoptosis and oncogenic transformation. To isolate the clone, a yeast two-hybrid method was used to screen a mouse embryo cDNA library to identify proteins that interact with JNK. 7 overlapping partial clones were isolated, and the full-length cDNA was subsequently obtained by screening a mouse brain lambda ZAPII cDNA library. The invention provides JIP-1 nucleic acids and polypeptides, expression vectors and host cells. The JIP-1 polypeptide and nucleic acids (including antisense and ribozyme molecules) can be used in the manufacture of a medicament for treating a pathological condition associated with abnormal expression or activity of JNK, such as a neurodegenerative disease (selected from Parklison's disease and Alzheimer's disease), a blood cot, stroke, malignancy, leukaemia,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             c-Jun NH2-terminal kinase (JNK)-interacting protein 1 - used to treat neurodegenerative disease, blood clot, leukaemia, autoimmune
Sequence 2832 BP;
                                                                                                            an autoimmune disease or inflammation (all claimed).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 11; Page 66-70; 95pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               disease, and inflammation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cDNA sequence codes for murine JNK-interacting protein
569 A; 888 C; 840 G; 535 T; 0 other;
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Percent Similarity:
Best Local Similarity:
Query Match:
DB: 7.12 124.50 36.06% 26.77% 8.62% Length: Matches: Conservative: Mismatches: Gaps: Indels: 2832 72 73 73 100 12

No.:

US-09-245-198A-4 (1-284) x AAV69289 (1-2832)

550	91 GGGCGCGAGGACGACGAGGAGGAGGAGGACGACGACCTCGCTGCCCAACGACCAGGAGT 550	Db 49:	н
105	7AlaGluGluAspGlnAsp	Qy 97	_
490	L GAGCCGGCTGCAGGCGGAGATGCAGATGGACCTGGTCGACGCGGCAGGTGACACTCC 490	Db 431	н
96		Qу 83	_
430	CCTGTCTCTCCGGCCCCCGCGCGCGCGG	Ďb 371	п.
83	- LeuGlyLeu	Qy 70	0
370	GGATGAAGACCTTTCGGAGATCACTGACGAGTGT	Db 311	н
69	GlyLeuAlaCeuAlaCys	Qу 64	0
310	GCACATCGCGTCGCCTCCCAATTTCAGGCTCACCCCATGACATCAGCCTGGAGGAGTTTGA 310	Db 251	п
63		Qу 63	20
250	AGAGAGCGGCCTGGGCGGGGGGCGCCGCGCCCACCGGCCGCTTCCCCATTCCTGGGACT	Db 191	н
63	ArgGlyGluProGlyThrAlaLeuLeuValProLeu-AlaLeuGlyLe	Оу 48	Ω
190	CCGCCTCCCGCGCCTCTCCGCCCGGATGGCCAGGGCTGCACCCCGGAATGGCGGAGCG	Db 131	н
47	GlnProProAlaProMetAlaAlaArgArgSerGlnArgArgArgGlyArg 47	Оу 31	0
130		Db 71	п
30	SerArgAspGlyGlyAlaValArgGlnAla 30	Qy 21	n
70	ATANGCTTGATATCGCTGTCCGGAGCCGCGCCCGCCCCAGCTCAGTCCGAA 70	рь 20	н
20	MetSerLeuLeuAspPheGluIleSerAlaArgArgLeuProLeuProArgSerLeuGly 20	Qy .	o

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RESULT 15
AAD25519/c
ID AAD255
XX AAD255
XX AAD255
XX 26-MAR
XX Human
XX Human
KW Human
KW Inmune
KW Vascull
XX Vascull
XX Vascull
XX Human
XX Human
XX Human
XX Vascull
XX For O6-APR
XX O7-APR
XX 
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                                                    bound to an aggregated protein polycationic polymer conjugate or suspension. The expression vector contains a promoter polynucleotide sequence operatively linked to a polynucleotide sequence encoding an antigen which is a fragment of a gene or genome associated with an infectious disease, cancer and autoimmune disease such as rheumatoid arthritis, vasculitis, and multiple sclerosis, pathogenic genomes consisting of bacterium, fungus, protozoa and virus such as human immunodeficiency virus (HIV), herpes simplex virus (HSV), hepatitis C virus (HCV), influenza and respiratory syncytial virus (RSV), and optionally comprising a nucleotide sequence encoding a cytokine (or a cytokine expression vector), is useful for inducing an immune response (systemic and/or mucosal) in an organism. The cytokine expression vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     containing antigenic protein-polycationic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-APR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antibacterial; fungicide; protozoacide; antirheumatic; antiinfl
antiarthritic; rheumatoid arthritis; neuroprotective; multiple
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human herpesvirus 2 complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAD25519 standard;
   contains a sequence for granulocyte (GM-CSF) or interleukin-12 (IL-12).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Page 90-132;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Composition for oral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-APR-2001; 2001WO-US11372.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-OCT-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                      invention relates to a composition comprising an expression vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      uLeuAsnProGlnThrGluGluSerGlnAspProAlaProPheLeuAsnArgLeuValAr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    erProLeuArgTyrAsnArgGln
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             herpesvirus 2; cytostatic; cancer; immunosuppressive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ŧ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ) BAYLOR COLLEGE MEDICINE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kinsey BM,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     delivery of vaccines, comprises expression vector genomic sequence, bound to aggregated polymer conjugate or suspension .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bhogal BS
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      macrophage-colony stimulating The polynucleotide sequences &
   polynucleotide
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disease;
   encoding
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antigen and the cytokine are under transcriptional control of same ferent promoter polynucleotide sequences. The expression vector, as vaccine is useful for treating a condition in an organism. The sent sequence is human herpesvirus 2 complete DNA genome related
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                                                                                                                                                                                                                                                                                                                                                                                                                                            GAACCTGATGCGCGCCCTCGAGGGGACCGC:
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                                                            nIleGlyGluPheIleValThrArgAlaGlyLeuTyrTyrLeuTyrCysGlnValHisPh
                                                                                                                                                                                                                                    ValHisProArgProGlyGlnAspGlyAlaGlnAlaGly-ValAspGlyThrValSerGl
                                                                                                                                                                                                                                                                 CCCCGCCCGCTTCGCCGACTCCGACGCCCACTACGCGTTTGACTACTACAGCACCAGCGG
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 eAspGluGlyLysAlaValTyrLeuLysLeuAspLeuLeuValAspGlyValLeuAlaLe
                                 CCTCTGCGGCCTAGTGGTCTTTCCGGGAGGCTTT
                                                                                         CTGCGAGCAATACCTTCCGGGAGAGAGCTACGCGTACCTCTGCCTTGGGTTCAATCGCCG
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TACCATTAACACCGCGGCGTACCTCAGCCTCGCAGACCCCGTCGCGCGTGCCGTCGGACT

31409

Sea: Job	뭥	Qy	Db	Qy	Дb	Qy
rch con	31330	264	31377	244	31408	224
Search completed: May 8, 2003, 03:43:17 Job time : 248.35 secs	31330 CCCCCCAACTCATACACGCGCTGGCCCC 31303	264 uProTrpAlaHisLeuLysAlaAlaPro 273	31377GCCTTGTCCGCTGACGCGTGCTTTTGTTCCACCGCTCACCCACC	244 uCysGlnValSerGlyLeuLeuAlaLeuArgProGlySerSerLeuArgIleArgThrLe 264	31408 CCGGTTCTGTCGCGGGGCGGCTACGGGACCC 31378	
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Minimum DB :
Maximum DB :
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MODEL-frame+_p2n.model -DeV=xlp

MODEL-frame+_p2n.model -DeV=xlp

-Q-/Ggn2_1/USPTO_Spool_US09245198/runat_06052003_170239_9615/app_guery.fasta_1.846

-DB-GenEmb1 -QFMT-fastap -SUFFIX=-ge -MINMATCH=0.1 -LOOPCL=0 -LOOPEXT=0

-UNITS-bits -STARC=1 -END=-1 -MATRIX-blosum62 -TRANS-human40.cdi -LIST=45

-DCALIGN=200 -THR_SCORE-pet -THR_MAX-100 -THR_MIN-0 -ALIGN=15 -MODE=LOCAL

-OUTFMT-P10 -NORM-ext -HEAPSIZE=500 -MINLEN=0 -MAXIEN=200000000

-USER-US09245198_eCGN 1_1_3073_@TUNAt_106052003_170239_9615 -NCPU=6 -ICPU=3

-NO_XID-XY -NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -DSPBLOCK=100 -LONGLOG

-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6

-FGAPEXT=7 -YGAPOP=10 -YGAPPEXT=0.5 -DELOP=6 -DELEXT=7
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Copyright (c) 1993 - 2003 Compugen Ltd.
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SUMMARIES

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                                                  SerProLeuArgTyrAsnArgGlnIleGlyGluPheIleValThrArgAlaGlyLeuTyr
                                                                                            AlaGlnAlaGlyValAspGlyThrValSerGlyTrpGluGluAlaArgIleAsnSerSer
                                                                                                                                                                                                                                                  TyrLeuTyrCysGlnValH1sPheAspGluGlyLysAlaValTyrLeuLysLeuAspLeu
                                         AGCCCTCTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTAC
                                                                                  GCGCAGGCAGGTGTGGACGGGACAGTGAGTGGCTGGGAGGAAGCCAGAATCAACAGCTCC
                                                                                                                          CGGGCTCGAAGAGCGATCGCAGCCCATTATGAAGTTCATCCACGACCTGGACAGGACGGA
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AX201324
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Ashkenazi,A.J., Goddard,A., Godowski,P.J., Gurney,A.I
Hillan,K.J., Marsters,S.A., Pan,J., Pitti,R.M., Roy,I
Stone,D.M., Watanabe,C.K. and Wood,W.I.
Compositions and methods for the treatment of tumour
Patent: WO 0153486-A 3 26-JUL-2001;
Genentech, Inc. (US)
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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/db_xref="taxon:9606"
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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YYLVCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSIGPQLRLCQVSGLLAL
RPGSSLRIRTLDWAHLKAAAPFLTYFGGLFQVH"
a 443 c 389 g 264 t
                                                                                                                                                                                                                  /gene="APO3L"
58. .807
                                                                                                                                                                              /function-"binds
Apo3/DR3"
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Apo3/DR3 ligand
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Sheridan,J.P.,
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Percent Similarity: Best Local Similarity:

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BC019047.1 G:
                                                                   Homo sapiens,
superfamily, n
Eukaryota; Metazoa;
Mammalia; Eutheria;
                 Homo sapiens.
Homo sapiens
                                           GI:17512138
                                                                    1651 bp mRNA
Similar to tumor necrosis
member 12, clone MGC:20669
Chordata; Craniata; Vertebrata; Primates; Catarrhini; Hominidae
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Hominidae;
        Euteleostomi;
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GGGGAGCCGGGCACCGCCTGCTGGTCCCGCTCGCGCTGGGCCTGGGCCTGGCGCTGGCC
         GlyGluProGlyThrAlaLeuLeuValProLeuAlaLeuGlyLeuGlyLeuAlaLeuAla
                                SerAlaArgArgLeuProLeuProArgSerLeuGlySerArgAspGlyGlyAlaValArg
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BC019047

(1-1651)

84

204 89 144 48

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Percent Similarity:
Best Local Similarity:
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This clone was selected for full length sequencing because passed the following selection criteria: matched mRNA gi: 4
Location/Qualifiers
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Shevchenko,Y., Wetherby,K.D., Beckstrom-Sternberg,S.M.,
Benjamin,B., Blakesley,R.W., Bouffard,G.G., Brinkley,C., Brooks,S.,
Benjamin,B., Guan,X., Gupta,J., Ho,S.-L., Karlins,E., Legaspi,R.,
Lim,M., Maduro,Q.L., Masiello,C., Mastrian,S.D., McCloskey,J.C.,
McDowell,J., Pearson,R., Snyder,B., Stantripop,S., Thomas,P.J.,
Tiongson,E.E., Touchman,J.W., Tsurgeon,C., Vogt,J.L., Walker,M.A.,
Zhang,L.-H. and Green,E.D.
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Tissue Procurement: Louis Staudt
Tissue Procurement: Louis Staudt
cDNA Library Preparation: Rubin Laboratory
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: National Institutes of Health Intramural
Sequencing Center (NISC),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (07-DEC-2001) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Clone distribution: MGC clone distribution through the I.M.A.G.E. Consortium/LLNL_at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NIH-MGC Project URL: http://mgc.nci.nih.gov
Contact: MGC help desk
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/clone_lib="NHH_MGC.48"
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/lab_host="PHIDB-R"
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                                                                                                                                                                                                                                                                             superfamily, member 12"
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ARRAIAAHYEVHPRPGQDGAQADGGYTTCLRP"
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                     Homo sapiens.
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                                             Homo sapiens TWEAK mRNA, AF030099
                                         GI:2707218
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       Craniata; Vo
Catarrhini;
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                          ProLysGlyArgLysThrArgAlaArgArgAlaIleAlaAlaHisTyrGluValHisPro
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TWEAK, a new secreted ligand in the tumor necrosis that weakly induces apoptosis

J. Biol. Chem. 272 (51), 32401-32410 (1997)

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Direct Submission
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Cambridge, MA 02142, USA
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YYLYCOVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLAL
RPGSSLRITTLFWAHLKRAPFLTYFGLEQVH"
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FSATAASSLGPQLRLCQVSGLLALRCLPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH"
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                                                                           Mus musculus Eukaryota; Metazoa; Chordata; Craniata; Mammalia; Eutheria; Rodentia; Sciurognat 1 (bases 1 to 1168) Chicheportiche, Y., Bourdon, P.R., Xu, H., Hesslon, C., Garcia, I. and Browning, J.L. TWEAK, a new secreted ligand in the tumc
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                             Chicheportiche, Y., Direct Submission
                                                           that weakly induces apoptosis J. Biol. Chem. 272 (51), 3240: 98070415
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GlnValHisPheAspGluGlyLysAlaValTyrLeuLysLeuAspLeuLeuValAspGly
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PELNEQTEESQUVVEFLEQLVRERRSAEKGRKARPERALAUTEVHPREGODGAQAGV
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GVLALRCLEEFSATAASSPGPQLRLCQVSGLLPLRPGSSLRIRTLPWAHLKAAPFLTY
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RS Birren, B., Nusbaum, C., Lander, E., Ali, A., Allen, N., Anderson, S., Barra, N., Bastien, V., Bloom, T., Boguslawkiy, L., Boukhgalter, B., Camarata, J., Chang, J., Chazaro, B., Choepel, Y., Collymore, A., Cook, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Farro, S., Ferreira, P., FitzGerald, M., Gage, D., Galagan, J., Gardyna, S., Gord, S., Graham, L., Grand-Pierre, N., Hagos, B., Horton, L., Hulme, W., Iliev, I., Johnson, R., Jones, C., Kamat, A., Karatas, A., Kells, C., Macdonald, P., Major, J., Matthews, C., McCartby, M., Meldrim, J., Meneus, L., Mihova, T., Mlenga, V., Murphy, T., Naylor, J., Naguen, C., Nicol, R., Norbu, C., Norman, C.H., O'Connor, T., O'Donnell, P., O'Neil, D., Oliver, J., Peterson, K., Phunkhang, P., Pierre, N., Raymond, C., Retta, R., Rise, C., Rogov, P., Roman, J., Roy, A., Schauer, S., Schupback, R., Seaman, S., Severy, P., Smith, C., Spencer, B., Stange-Thomann, N., Stojanovic, N., Talamas, J., Viel, R., Va, M., Vassiliev, H., Viel, R., Va, M., Vassiliev, H.,
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                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (06-AUG-2002) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA On Jun 2, 2002 this sequence version replaced gi:15421989.

All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)

http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Viel,R., Vo,A., Wilson,B., Wu,X., Wyman,D., Young,G., Zainoun,J.,
Zembek,L., Zimmer,A. and Zody,M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (08-DEC-1999) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 (bases 1 to 177703)
Birren, B., Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, M.,
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Birren, B., Nusbaum, C.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AC016876.5 GI:21313830
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NOTE: This is a 'working draft' sequence. It currently consists of 10 contigs. The true order of the pieces
                                                                                                                 Center project name: L3849
Center clone name: 186_B_7
                                                                                                                                                                                       Contact: sequence_submissions@genome.wi.mit.edu
                                                                                                                                                                                                                                                                                                                 Center: Whitehead Institute/ MIT Center Center code: WIBR
                                                                                                                                                                                                                                                                        site: http://www-seq.wi.mit.edu

    Genome Center

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SEQUENCING IN PROGRESS
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US-09-245-198A-4 (1-284) x AC016876 (1-177703)
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Query Match:
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ORIGIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                   37516 TACTGTCAGGTAAGCCCCATCTGGCTGCATGGGTAACGCAGTAAGAGAGTGGCGAAGGGT 37457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        37576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    37636 TCAGGTGTGGACGGGACAGTGAGTGGCTGGGAGGAAGCCAGAATCAACAGCTCCAGCCCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                    200
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           159 AlaGlyValAspGlyThrValSerGlyTrpGluGluAlaArgIleAsnSerSerSerPro 178
233 rAlaAlaSerSerLeuGlyProGlnLeuArgLeuCysGlnValSerGlyLeuLeuAlaLe 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  199 TyrCys----
                                                     GCTGGACTTGCTGGTGGATGGTGCTGGCCCTGCGCTGCCTGGAGGAATTCTCAGCCAC 37217
                                                                                                                                                                                                                                                                        sLeuAspLeuLeuValAspGlyValLeuAlaLeuArgCysLeuGluGluPheSerAlaTh 233
                                                                                                                                                              ACTCGGCCTGTTGTCCCCCACCCCCAGGTGCACTTTGATGAGGGGAAGGCTGTCTACCTGAA 3727;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGCGCTACAACCGCCAGATCGGGGAGTTTATAGTCACCCGGGCTGGGCTCTACTACCTG 37517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            65805 65904: gap of 100 bp 65905 79793: contig of 13889 bp in length 79794 79893: gap of 100 bp 79894 99593: gap of 100 bp 99594 111049: contig of 11456 bp in length 111050 111149: gap of 100 bp 1105101 125120: gap of 100 bp 1125120: gap of 100 bp 1125120: gap of 100 bp 1125120: gap of 100 bp 1125121 145109: contig of 13871 bp in length 145110 145209: gap of 100 bp 145210 169458: contig of 19898 bp in length 169459; gap of 100 bp 145210 169458: contig of 24249 bp in length 169459; gap of 100 bp 145210 169458: contig of 24249 bp in length 169459; gap of 100 bp 145210 169588: contig of 24249 bp in length
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169559 177703: contig of 8145 bp in length
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/db_xref="taxon:9606"
/clone="RP11-186B7"
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45967 c 46568 g 41254 t 1052
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589.50
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Indels:
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AUTHORS
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AC127470
LOCUS
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E 1 (bases 1 to 215795)

S Akhter,N., Antonellis,A., Ayele,K., Beckstrom-Sternberg,S.M., Benjamin,B., Blakesley,R.W., Bouffard,G.G., Breen,K., Brinkley,C., Benjamin,B., Dletrich,N.L., Granite,S., Guan,X., Gupta,J., Haghlighi,P., Hansen,N., Ho,S.-L., Idol,J.R., Karlins,E., Laric,P., Haghlighi,P., Hansen,N., Ho,S.-L., Idol,J.R., Karlins,E., Laric,P., Lee-Lin,S.-Q., Legaspi,R., Maduro,Q.L., Maduro,V.B., Margulies,E.H., Masiello,C., Maskeri,B., Mastrian,S.D., McCloskey,J.C., McDowell,J., Paguirigan,C., Pearson,R., Portnoy,M.E., Prasad,A., Schueler,M.G., Stantripop,S., Thomas,J.W., Thomas,P.J., Touchman,J.W., Tsurgeon,C., Vogt,J.L., Walker,M.A., Wetherby,K.D., Wiggins,L., Young, Z. Zhang,L.-H. and Green,E.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              uArgProGlySerSerLeuArgIleArgThrLeuProTrpAlaHisLeuLysAlaAlaPr
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
Submitted (17-JUL-2002) NIH Intramural Sequencing Center,
Grovemont Circle, Gaithersburg, MD 20877, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AC127470.1 GI:21886866
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Pan troglodytes clone RP43-145D13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unpublished
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                                                                                                                                                                                                                                                                                                               Center project name: Cms
Center clone name: 145D13
Center clone name: 145D13
Sequencing vector: plasmid; n/a; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Assembly program: Phrap; version 0.990319
Consensus quality: 203929 bases at least Q40
Consensus quality: 203929 bases at least Q30
Consensus quality: 209181 bases at least Q20
Insert size: 190000; agarose-fp
Insert size: 214395; sum-of-contigs
Quality coverage: 7.30x in Q20 bases; sum-of-contigs
Quality coverage: 6.47x in Q20 bases; sum-of-contigs
                                                                                                                                                NOTE: This is a 'working draft' sequence. It currently consists of 15 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
                                                                                                        be preserved.
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                                                                                                                            soon as it is available and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Web site: http://www.nisc.nih.gov
Contact: nisc_zoo@nhgri.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Center: NIH Intramural Sequencing Center Center code: NISC
         3594
3694
8002
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --- Project Information
3593: contig of 3593 bp in length 3693: gap of unknown length 8001: contig of 4308 bp in length 8101: gap of unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genome Center
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                                                                                                                            the accession number will
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                                                                                                                                                                                                                                                                         BASE COUNT
  US-09-245-198A-4 (1-284) x AC127470 (1-215795)
                                                                                                                                                                           Pred. No.:
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Direct Submission
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Submitted (08-AUG-2002) NIH Intramural Sequencing
Submitted (08-AUG-2002) NIH Intramural Sequencing
Scrovemont Circle, Gaithersburg, MD 20877, USA
Grovemont Circle, Gaithersburg, M
                                                                                                                                                                                                                                                                                                     Akhter, N., Antonellis, A., Ayele, K., Beckstrom-Sternberg, S.M., Benjamin, B., Blakesley, R.W., Bouffard, G.G., Breen, K., Brinkley, C., Brooks, S., Dietrich, N.L., Granite, S., Guan, X., Gupta, J., Laric, P., Haghighi, P., Hansen, N., Ho, S.-L., Idol, J.R., Karlins, E., Laric, P., Lee-Lin, S.-Q., Legaspi, R., Maduro, Q.L., Maduro, V.B., Margulles, B.H., Masiello, C., Maskeri, B., Mastrian, S.D., McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R., McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R., Portnoy, M.E., Prasad, A., Schueler, M.G., Stantripop, S., Thomas, J.W., Thomas, P.J., Touchman, J.W., Tsurgeon, C., Vogt, J.L., Walker, M.A., Wetherby, K.D., Wiggins, L., Young, A., Zhang, L.-H. and Green, E.D. Insuble Paguint Sequencing Initiative
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vector_side:left" clone_end:T7

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33820 21402 /note="assembly_fragment" 13566. .21301

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arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequencing vector: plasmid; n/a; 100% of reads chemistry: Dye-terminator Big Dye; 100% of reads Assembly program: Phrap; version 0.990319
Consensus quality: 164120 bases at least Q40
Consensus quality: 170767 bases at least Q30
Consensus quality: 170767 bases at least Q20
Consensus quality: 170767 bases at least Q20
Insert size: 169000; agarose-fp
Insert size: 176655; sum-of-contigs
Quality coverage: 4.78x in Q20 bases; sum-of-contigs
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Center clone name: 436K21
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/db_xref="taxon:9823"
/clone="RP44-436K21"
                                                      organism="Sus scrofa"
                                                                                                                             33719: contig of 12318 bp in 1
33819: gap of unknown length
45054: contig of 11235 bp in 1
45154: gap of unknown length
58724: contig of 13570 bp in 1
58824: gap of unknown length
76670: contig of 17846 bp in 1
76770: gap of unknown length
115165: contig of 38395 bp in 1
117565: gap of unknown length
117555: contig of 62290 bp in 1
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0: gap of unknown length
9: contig of 330 bp in length
9: gap of unknown length
5: contig of 6496 bp in length
5: gap of unknown length
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                                             lLeuAlaLeuArgCysLeuGluGluPheSerAlaThrAlaAlaSerSerLeuGlyProGl
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Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AC126925.1
                                                                                                                                                                                                                                                                 NOTE: This is a 'working draft' sequence. It currently consists of 15 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as
                                                                                                                                                                                                      as soon as it
be preserved.
                                                                                                                                                                                                                                     This record
                                                                                                                                                                                                                                                      runs of N,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 161428)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 161428)
                                                                                                                                                                                                                                                                                                                                                                                                        Center project name: cwp
Center clone name: 332E11
Center clone name: 332E11
Sequencing vector: plasmid; n/a; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Assembly program: Phrap; version 0.99319
Consensus quality: 148712 bases at least 040
Consensus quality: 151471 bases at least 030
Consensus quality: 153125 bases at least 020
Toget of 151471 bases at least 020
                                                                                                                                                                                                                                                                                                                                              Insert size: 152000; agarose-fp Insert size: 160028; sum-of-contigs Quality coverage: 5.36x in Q20 bases; Quality coverage: 5.10x in Q20 bases;
 4735
4835
7326
7426
12262
12362
12362
19032
19032
19132
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Center: NIH Intramural Sequencing Center Center code: NISC
Web site: http://www.nisc.nih.gov
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                                                                          7425:
12261:
12361:
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19031:
19131:
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of 4836
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                                                                                                                                                                                        of 4734 bp in length
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                                               42806 CCAATCTCTGAACCCCTGCATTCAGGTGTGGGATGGGACGGTGAGTGGCTGGGAAGAGGCC 42747
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172 ArgIleAsnSerSerSerProLeuArgTyrAsnArgGlnIleGlyGluPheIleValThr 191
                                                              152 ProGlyGlnAspGlyAlaGlnAlaGlyValAspGlyThrValSerGlyTrpGluGluAla 171
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68780. .78984
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131786. .161428
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41863 c 41233 g 37340 t
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/organism="Canis familiaris"
/db_xref="taxon:9615"
/clone="RP81-332E11"
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102276. .131685
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79085...93446
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10882. .49783
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102175: contig of 8629 bp in length
102275: gap of unknown length
131685: contig of 29410 bp in length
131785: gap of unknown length
151785: gap of unknown length
161428: contig of 29643 bp in length.
231607Qualifiers
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ig of 10205 bp in length
of unknown length
ig of 14362 bp in length
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Mismatches:
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of 9429 bp in length
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TITLE Direct Subm JOURNAL Unpublished REFERENCE 2 (bases 1 TITLE Direct Subm TITLE Direct Subm TOURNAL Submitted (JOURNAL Submitted (Molecula Baylor Plaz COMMENT On Jun 25, Center:	REFERENCE I (Dases 1 AUTHORS Metzker,M.L. Addison,S., Buhay,C., Bu Cox,C., Davi Fernandez,C., C., Gorrell,J.H. Hosak,H., Ho Kovar,C., Li Massey,E., Meal,D., Nel Perez,L., Rewilliamson,A Muzny,D.M.,	SEQUACO ACOO ACOO HTG HTG Mus Euka	RESULT 12 AC069459/c AC06945 LOCUS AC06945	Qy 274 eLeuThrTy Db 42266 CCTTACCTA	Qy 254 gProGlySe 	Qy 234 aAlaSerSe Db 42386 CGCCAGCAG	Qy 214 uAspLeuLe Db 42446 GGACTTGCT	Qy 201 рь 42506 gcggccтcc	Db 42566 GTGGGGAGC	200	Db 42626 GGAAGCGGG	42686	Qy 192 ArgAlaGly	
to 203083) ission ission ission 31-MAY-2000) Human Genome Sequencing Center, 7 and Human Genetics, Baylor College of Medic 8, Houston, TX 77030, USA 2001 this sequence version replaced gi:126213 Genome Center Baylor College of Medicine	l to 203083) L., Lewis, L.R., Hume, J., Edwards, C., Harris, C., Thomas, S., Okwuonu, G., Carlock, C., Garner, C., Pace, A., Williams, G., Bonnin, D., Brooks, A., E. Bunac, C., Burkett, C., Chacko, J., Chen, G., Chen, d.S., C., Delgado, O., Ding, Y., Dugan-Rocha, S., L., Ferraguto, D., Forcum-Tansey, J., Gill, R., C., Ferraguto, D., Forcum-Tansey, J., Gill, R., H., Gunaratne, P., Haller, G., Hernandez, J., Hogu H., Gunaratne, P., Haller, G., Hernandez, J., Hogu H., Gunaratne, P., Haller, G., Hernandez, J., Mart H., Gunaratne, P., Haller, G., Moore, S., Morgan, M., Morr J., Liu, W., Loulseged, H., Lozado, R. J., Mart McLeod, M.P., Mei, G., Moore, S., Morgan, M., Morr Blson, A., Nguyen, R., Nguyen, N., Oguh, M., Parling, R., Wrensford, G., Zhou, X., Bouck, J., Hodgson, J., A., Wrensford, G., Zhou, X., Bouck, J., Hodgson, J., Rives, M., Scherer, S., Sodergren, E., Weinstock	7 unordered pieces. 7 unordered pieces. 8 GI:14547768 PHASE1; HTGS_FULLTOP. 18. 18. Metazoa; Chordata; Craniata; Vertebrata; Eutel	musculus chromosome 11 clone RP23-168P5. WORKING DRAFT	eLeuThrTyrPheGlyLeuPheGlnValHis 284 	gProGlySerSerLeuArgIleArgThrLeuProTrpAlaHisLeuLysAlaAlaProPh :	aAlaSerSerLeuGlyProGlnLeuArgLeuCySGlnValSerGlyLeuLeuAlaLeuAr 2 	UASPLeuLeuValAspGlyValLeuAlaLeuArgCysLeuGluGluPheSerAlaThrAl 2	GlnValHisPheAspGluGlyLysAlaValTyrLeuLysLe 2	GTGGGGAGCCTAGGGTCGGGGCCCGATGGGATCCTGGGGTCACCAAGGACCCCGGACTCT 4		AAGCGGGGGCCCCAGGTTGAGGGAGACGGAGAGGGTTTGGTTCAGGGGGCAGGTTGGG (ArgAlaGlyLeuTyrTyrLeuTyrCys	WHEN CHARACT COMMECCUET SECTION COCCHOMS COGGONN I HIM SECUED
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                                    TACTGTCAGGTAAGCCCTGCCTGGCTTCAGGGGCCAGAGCCAAAGGCTAAGGGGAGGAGGGA 43126
                                                                                  TyrCys----
                                                                                                                       CTGCGCTACGACCGCCAGATTGGGGAATTTACAGTCATCAGGGCTGGGCTCTACTACCTG
                                                                                                                                            LeuArgTyrAsnArgGlnIleGlyGluPheIleValThrArgAlaGlyLeuTyrTyrLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tumc.edu/docs/Genbank_draft_data.html).

NOTE: This is a "vorking draft' sequence. It currently consists of 7 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown.

This record will be updated with the finished sequence
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118773
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/chromosome="11"
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gap of unknown length
contig of 22576 bp in length
gap of unknown length
contig of 6530 bp in length
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gap of unknown length
contig of 56520 bp in length
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                                                                                                                                                                                                                                                                                                                                                              This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em:, EMBL; SW:, SWISSPROT; Tr:, TREMBL; Wp:, WORMPEP; Information on the WORMPEP SWISSPROT; Tr:, TREMBL; Wp:, WORMPEP; Information on the WORMPEP database can be found at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk on Nov 20, 2001 this sequence version replaced gi:16605765.
During sequence assembly data is compared from overlapping clones. Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AL603707 234182 bp DNA linear ROD Mouse DNA sequence from clone RP23-422L16 on chromosome
                                                                                                                                                                                                                                                           http://www.sanger.ac.uk/Projects/C_elegans/wormpep RP23-422L16 is from the RPCI-23 Mouse PAC Library constructed by the group of Pieter de Jong.
For further details see http://www.chori.org/bacpac/home.htm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (17-NOV-2001) Wellcome Trust Sanger Institute, Hinxton Cambridgeshire, CB10 1SA, UK. E-mail enquirles:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
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                                                                                                                                                                                   Location/Qualifiers
                      /clone="RP23-422L16"
/clone_lib="RPCI-23"
                                                                          /db_xref="taxon:10090"
/chromosome="11"
                                                                                                                               /organism="Mus musculus"
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Benjamin, B., Blakesley, R.W., Bouffard, G.G., Breen, K., Brinkley, C., Brooks, S., Dietrich, N.L., Granite, S., Guan, X., Gupta, J., Barooks, S., Dietrich, N.L., Granite, S., Guan, X., Gupta, J., Haghighi, P., Hansen, N., Ho, S.-L., Idol, J.R., Karlins, E., Laric, P., Lee-Lin, S.-O., Legaspi, R., Maduro, Q.L., Maduro, V.B., Margulies, B.H., Masiello, C., Maskeri, B., Mastrian, S.D., McCloskey, J.C., McDowell, J., Paguirigan, C., Pearson, R., Portnoy, M.E., Prasad, A., Schueler, M.G., Stantripop, S., Thomas, J.W.,
                                                                                                       Akhter, N., Antonellis, A., Ayele, K., Beckstrom-Sternberg, S.M.,
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                                                                                                                                           Mammalia; Eutheria; Ce
Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                              AC126921 153553 bp DN Bos taurus clone RP42-45D24, WORKING
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big dye terminator reads only."
a 56824 c 57519 g 60529 t
                                                                                                                                                       Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
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Submitted (10-JUL-2002) NIH Intramural Sequencing Center, Grovemont Circle, Gaithersburg, MD 20877, USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
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Center clone name: 045D24
Center clone name: Statistics
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Contact: nisc_zoo@nhgri.nih.gov
Project Information
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Insert size: 152453; sum-of-contigs
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                                Submitted (18-JUL-2002) Human Genome Sequencing Center, De
of Molecular and Human Genetics, Baylor College of Medicin
Baylor Plaza, Houston, TX 77030, USA
On Jul 14, 2002 this sequence version replaced gi:20303440
                                                                                                                                                                                                                                      Submitted (25-APR-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA (bases 1 to 138792)
                                                                                                                                                                                                                                                                                                                                                                   Worley, K.C.
Direct Submission
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                                                                                                                                                                                   Direct Submission
                                                                                                                                                                                                                Worley, K.C.
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Mammalia; Eutheria;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished
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Center: Baylor College of Medicine
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COMMENT

Center code: BCM

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NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html).

NOTE: This is a "working draft" sequence. It currently consists of 32 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown.

This record will be updated with the finished sequence
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be preserved
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Consensus quality: 112720 bases at least Q40
Consensus quality: 116666 bases at least Q30
Consensus quality: 119165 bases at least Q20
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/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1987.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*
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/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1992.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1993.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1994.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1995.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1995.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1997.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1998.DAT:*
/SIDS2/gcgdata/geneseq/geneseqp-embl/AA1999.DAT:*
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/SIDS2/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:
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                         AAW47525
AAY09369
AAB07526
AAY95338
AAU86129
AAW29745
AAE00891
AAW03499
AAW93590
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                                                                   Amino acid sequenc
Human PRO207 antit
Human PRO207 polyp
TWF related endoth
Human TREPA (TWF r
                                                                                                                                                                                                                                                                      Description
TWEAK extracellula
Human TNRL3 protei
Mus musculus tumou
                                                                                                                                                                                              Homo sapiens tumou
Human tumour necro
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Human polypeptide	AA000076	22	409		93.5
Novel human diagno	ABG00217	22	876	6.5	ف
human	ABG21178	22	1006		94.5
	AAE01992	22	294		
receptor	AAE04425	22	294		
e receptor a	AAE08737	22	294	∵.	
	N	19	294		
_	AAW69956	19	294	٠	
HVEM-	AAE13680	23	240		95
0	AAB62339	22	234	٠	
human	8	22	1631	٠	
human di	ABG25655	22	1097	٠	
protein	AAM79875	22	1020	٠	99
otein SEQ	AAM78891	22	1008	٠	
	AAY97032	21	574	٠	99
Gp120 V3 loop-CD15	AAB62340	22	220	٠	100
Rat petrin.	AAW04327	17	647	7.0	100.5
Human pro	AAM25657	22	256	7.1	102
N-methyl-D-	AAR55248	15	1323	7.2	104
Drosophila melano	AAU77716	23	409	7.2	104
Human MAP k	ABB07845	23	779	7.2	104.5
	AAU77717	23	406	7.3	105.5
Caspase 8-interact	AAY97033	21	1428	7.3	106
Human cytokine 4-1	ABB75953	23	254	7.4	106.5
4-1BB li	AAW26657	18	254	7.4	106.5
4-1BB-L p	AAR64190	16	254	7.4	106.5
CD154.	AAY58215	21	260	7.5	m
_	AAY58216	21	211		108.5
	71	23	409	8.0	116
phila melano	ABB67553	22	325		116
Human TREPA (TNF r	AAE00895	22	146	52.7	761
n UL4fla	AAE00892	22	189	4	792
elated endot	97	19	189	54.8	792
TNRL3	935	20	211	7.	968
' Amino acid sequenc	AAB07527	21	225	70.6	1020

ALIGNMENTS

21-JUL-1998 AAW47525;

(first entry)

AAW47525 standard; Protein; 284 AA.

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RESULT 1
AAW47525
IID AAW44
XX AAW47525
AC AAW4
XX HOMO
DT 21-J
DT 21-J
DT 21-J
DT GTREL
KW TTREL
KW GTAEL
KW G
                                                                                                                                                                                                                                                                                                                                                                              18-MAR-1997;
07-AUG-1996;
18-OCT-1996;
WPI; 1998-145619/13.
N-PSDB; AAV18600.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRELL; tumour necrosis factor related ligand; tnf; treatment; cancer; autoimmune disease; immune system; stimulation; suppression;
                                                                                                                                          Browning JL, Chicheportiche Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   graft rejection:
                                                                                                                                                                                                                                    (BIOJ ) BIOGEN INC. (UYGE-) UNIV GENEVA FACULTY MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12-FEB-1998
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                                                                                                                                                                                                                                                                                                                                                                         97US-0040820.
96US-0023541.
96US-0028515.
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RESULT 2
AAY09369
ID AAY0
XX AAY0
AC AAY0
DT 15-J
XX
Huma
XX
Huma
XX
Huma
XX
Huma
XX
KW NF-k
KW Canc
CX
CX
SS Homo
XX
PN WO99
PN WO99
PD 22-A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    diseases or immune responses to tissue grafts, or to stimulate or C suppress the immune system. It is useful to screen for TREIL receptors, by labelling with a detectable label and screening CC compositions for binding. Agents interfering with TREIL-receptor CC binding can also be screened for, can then be administered, optionally with interferon- gamma, to induce cell death or creat, suppress or alter immune responses (especially involving human CC adenocarcinoma cells) involving a signal pathway between TREIL and its CC receptor. It's coding sequence can be used in gene therapy for CC and toimmune and inflammatory diseases or inherited genetic disorders, by introducing into cells, and expressing, therapeutically effective amounts of a vector, e.g. a virus comprising a gene encoding TREIL. CC amounts of a vector, e.g. a virus comprising a gene encoding TREIL. CC screening natural/synthetic DNAs for TREIL-encoding sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                      Human; tumour necrosis factor; Apo-3 ligand; lymphotoxin; apoptosis; NF-KappaB-dependent transcription; JNK/SAPK-dependent response;
                  22-APR-1999
                                                                               Homo sapiens
                                                                                                                                                                             Human tumour
                                                                                                                                                                                                                                                                          AAY09369 standard; Protein; 249
                                                WO9919490-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and for antisense therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The sequence is that of human tumour necrosis factor related ligand (TRELL). TRELL or active fragments can be included with a carrier in pharmaceutical compositions to treat cancer, autoimmune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The sequence is that of human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tumour necrosis factor related ligand - useful for, e.g. treating cancer, auto-immune disease and immune responses to tissue grafts
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                                                                                                                                                                                                                                                                                                                                                                                                                 QLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH
                                                                                                                                                                                                                                                                                                                                                                       QLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NRLVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NRLVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLR 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LGLGLALACLGLLLAVVSLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LGLGLALACLGLLLAVVSLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   284 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                          necrosis factor
                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                     Apo-3 ligand protein sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 1444; DB 19;
Pred. No. 1.2e-129;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
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AABO7526
ID AABO
XX AABO
XX 20-O
XX AMIN
DE AMIN
XX TWEA
KW TWEA
KW Graf
XX HOMO
XX HOMO
20 20-J
XX 11-J
PF 11-J
XX .
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                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                  Graft-versus-Host
                                                                                                                                                                                                                                                                                         TWEAK protein; immunological disorder; immune response; inflammation; TWEAK blocking agent; autoimmune disease; organ transplant rejection;
                                                                                                                                                                                                                                                                                                                                                                  Amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                  20-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB07526;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB07526 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present sequence represents a human tumour necrosis factor (TNF) and lymphotoxin homologue designated Apo-3 ligand. Apo-3 ligand has cytostatic activity. Apo-3 ligand can be used to induce apoptosis in mammalian cancer cells, to induce NF-kappaB-dependent transcription to induce JNK/SAPK-dependent responses in mammalian cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Fig 1; 74pp; English.
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10-OCT-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           New human Apo-3 ligand (a tumour necrosis factor) homologue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 09-OCT-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYFGLFQVH 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFL
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249; Conserv
                                                                                                                                                                                                                                                                                                                                                      sequence of a soluble recombinant human TWEAK protein.
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                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                    agent;
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970S-0062037
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                                                                                                                                                                                                                                                                                    autoimmune
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                                                                                                                                                                                                                                                               GVHD;
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Pred. No. 6.6e-113;
0; Mismatches 0;
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15-JAN-1999;

14-JAN-2000; 2000WO-US01044

20-JUL-2000 WO200042073-A1

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RESULT 4

AAY53

AAY 53

AC AAY5

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Matches 249
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                                                                                                                                                                                                                                                                                                                        uterine cancer; central nervous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present sequence represents a describes a method for preventing
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI;
                                                                                                                                                                                                                                                                                                                PRO207; human; antitumour; tumour; therapy; cytostatic; breast cancer; ovarian cancer; renal cancer; colorectal cancer; uterine cancer; prostate cancer; lung cancer; bladder cancer; central nervous system cancer; melanoma; leukaemia; neoplasm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human PRO207 antitumour protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY95338 standard; Protein;
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                                                                                                                    Peptide
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                                     /label= Signal_peptide
41..249
                                                                                                                                                     Location/Qualifiers
/label= PRO207
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Pred. No. 6.6e-113;
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The present sequence is that of human antitumour protein PRO207, as deduced from a foetal kidney cDNA clone (see AAA49717). PRO207 shows amino acid sequence identity to tumour necrosis factor family members, especially human lymphotoxin-beta (23.4%) and human CD40 ligand (19.8%). Mol.wt. is 27,216. A claimed method for inhibiting the growth of a tumour cell comprises exposing the tumor cell to PRO179, PRO207, PRO320, PRO219, PRO221, PRO224, PRO328, PRO301, PRO526, PRO362, PRO356, PRO509 or PRO866 (see AAY95337-49), their agonists or chimeric polypeptides incorporating them. The tumour is especially a cancer selected from breast, ovarian, renal, colorectal, uterine, prostate, lung, bladder and central nervous system cancer, melanoma and leukaemia. Methods for the recombinant expression of the antitumour proteins are also provided.
                                                                                                                                                                                                                                                                                                                                                                      20-JUL-1999;
26-JUL-1999;
15-SEP-1999;
15-SEP-1999;
                                                                                                                                                                                                                            Novel composition to inhibit neoplastic cell growth or for treating tumor in mammal comprises polypeptides PRO179, PRO207, PRO320, PRO2021, PRO224, PRO308, PRO301, PRO526, PRO362, PRO356, PRO509 or
                                                                                                                                                                                                                                                                           WPI; 2000-442668/38.
N-PSDB; AAA49717.
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MA, Pitti RM,
                                                                                                                                                                                         Claim 19; Fig 4;
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21-APR-1999;
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249 AA;
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99US-0130232.
99US-0131445.
99US-0134287.
99US-0144758.
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99WO-US21547
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45..51
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36..42
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29..35
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97..101
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125..1
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Query Match

87

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Score 1268;

DB 21;

Length 249;

Sequence

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RESULT 5
AAU86129
ID AAU8
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AC AAU8
XX Huma
XX Huma
XX Huma
XX Homo
XX 1euk
XX Cyto
XX 26-J
XX 26-J
XX 27-J
XX 2
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Matches
                                                                                                                                                                                                                                                                                17-AUG-1999;
31-AUG-1999;
01-SEP-1999;
                                                        Ashkenazi AJ,
Marsters SA,
Watanabe CK,
                                                                                                                                                                                                                                                                                                                                          20-JUL-1999;
26-JUL-1999;
28-JUL-1999;
WPI; 2002-205567/26.
N-PSDB; ABK40255.
                                                                                                                                                                                                                           30-NOV-1999;
                                                                                                                                        (GETH ) GENENTECH INC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; PRO; benign tumour; malignant tumour; lymphoid malignancy; leukaemia; neuronal disorder; stromal disorder; blastocoelic disorder; inflammatory disorder; immune disorder; angiogenic disorder;
                                                                                                                                                                                                                                                                 15-SEP-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11-MAR-1999;
11-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-JUL-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
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                                                      Goddard A, G
Pan J, Pitti
Wood WI;
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99WO-US28634.
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99WO-US20111.
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                                                                       Godowski PJ,
RM, Roy MA,
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Smith
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                                                                       Hillan K.
Stone DM;
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RESULT 6
AAW29745
ID AAW2
XX AAW2
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AC AAW2
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XX TNF;
KW TLSS
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Best Local Similarity
                                                                               (ABBO ) ABBOTT
                                                                                                                                      10-FEB-1998;
12-FEB-1997;
                                                                                                                                                                                                                                                                            13-AUG-1998
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                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
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                                                                                                                                                                                                                     12-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                           tissue grafting;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27-OCT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW29745;
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97US-0798692.
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                                                                                                                                                                                                                                                                                                                                                                                                                                   proliferative agent; TREPA; wound healing; cancer;
vascularisation; apoptosis; autoimmune; birth control.
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Pred. No. 6.6e-113;
0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 248
                                                           Key
Domain
                                                                                                                                                  Human;
TREPA;
                                                                                                                                                                                                                             04-JUL-2001
                                                                                                                                                                                                                                                                                      AAE00891 standard; Protein;
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               US6207642-B1
                                                                                                                                grafting; vulnerary.
                                                                                                                                                                                                 Human TREPA
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                                                                                                                                                                                                                                                             AAE00891
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248; Conservative
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                                        Location/Qualifiers 98..249
/label= Extracellul
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                                            Extracellular_domain
                                                                                                                                                                                            endothelium proliferative agent).
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Pred. No. 1.3e-112;
1; Mismatches 0;
                                                                                                                                                TNF; angiogenesis; wound healing;
proliferative agent; tumour; meta
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAU03499
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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98US-0021706.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein; 273
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Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 22;
1.3e-112;
hes 0;
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ocular neovascularisation; diabetic retinopathy; neovascular glaucom retinoblastoma; retinopathy of prematurity; retrolental fibroplasia; rubeosis; uveitis; macular degeneration; arthritis; rheumatism; corneal graft neovascularisation; psoriasis; metastatic condition; malignant tumour; sarcoma; carcinoma; benign tumour; haemophilic joi

haemophilic joint

TWEAK extracellular domain; tumour necrosis factor; TNF; angiogenesis

TWEAK extracellular domain-containing fusion protein.

26-SEP-2001

(first entry)

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                                                                                                                                                                                                                                                                                                                                                                 The sequence represents a a fusion protein encoded by the expression vector pDC409-LZ-TWEAK. The fusion protein comprises a GC growth hormone leader, a leucine zipper multimerisation domain, and CC the extracellular domain of human TWEAK. The fusion protein was GC used in the isolation of human TWEAK receptor (TWEAKR)-expressing GC clones from a COS cell human CDNA library. The TWEAKR protein is GC a member of the tumour necrosis factor (TNF) family and induces GC angiogenesis. TWEAKR may therefore be used to screen for and GC develop TWEAKR agonists and antagonists for the modulation of GC angiogenesis, to be used in the treatment and diagnosis of human disease. The disorders mediated by angiogenesis include ocular disorders GC characterised by ocular neovascularisation such as diabetic retinopathy, CC retrolental fibroplasia, retinoblastoma, retinopathy of prematurity, CC corneal graft neovascularisation, and inflammatory diseases such as arthritis, rheumatism and psoriasis. Other treatable diseases include CC malignant and metastatic conditions such as sarcomas and carcinomas, benignant and metastatic conditions such as sarcomas and carcinomas, benignant and metastatic conditions such as sarcomas and carcinomas, benignant and metastatic conditions such as sarcomas and carcinomas, benignant and metastatic conditions, myocardial angiogenesis. CC haemophilic joints, scleroderma, vascular adhesions, atherosclerotic plaque neovascularisation, telangicctasia, wound granulation, coronary atherosclerosis nertinheral atherosclerosis, and includes and carcinomary.
                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Modulating angiogenesis in a mammal for treating diseases mediated by angiogenesis, e.g. solid tumours and vascular deficiencies of cardiac peripheral tissue, by administering antagonist or agonist of TWEAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 1; Page 41; 46pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; AAS03964.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wiley
                                                                                                                                                                                                                                                                                                                                                                                                    therosclerosis, peripheral atherosclerosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-417975/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20-DEC-1999; 99US-0172878.
10-MAY-2000; 2000US-0203347.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 preneoplastic condition; myocardial angiogenesis; wound granulation; scleroderma; vascular adhesion; telangiectasia; ischaemia; human; atherosclerotic plaque neovascularisation; coronary atherosclerosis; peripheral atherosclerosis; pDC409-LZ-TWEAK; TWEAK receptor; TWEAKR;
                                                                                                                          127
                                                                                                                                                               138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (IMMV ) IMMUNEX CORP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tusion protein.
                                                                                                                                                                                                       67
                                                                                                                                                                                                                                            78
                                                                                                                                                                                                                                                                                  Local Similarity
nes 207; Conserv
                                                                                                                                                                                          SLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTR 137
SLRIRTLPWAHLKAAPFLTYFGLFQVH
                                     LYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGS
                                                        LYCQVHEDEGKAVYLKLDLLVDGVLALRCLEEESATAASSLGPQLRLCQVSGLLALRPGS
                                                                                                              ARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYY 197
                                                                                                                                                                                                                                                                                                                                                                 273
                                                                                                                                                                                                                                                                                Conservative 0;
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                                                                                                                                                                                                                                                                                              73.8%; Score 1066; DB 22; 100.0%; Pred. No. 1.5e-93;
                                                                                                                                                                                                                                                                                Mismatches
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77

VSLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKT 136

Query Match Best Local S Matches 207

Similarity

73.5%;

Conservative

0

Score 1062; D Pred. No. 2.6e 0; Mismatches

6e-93;

Length Indels

208; 0

Gaps

0

Sequence

208

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This invention describes isolated Tumor Necrosis Factor (TNF) family creceptor polypeptides: APO4, APO6, APO8 and APO9 or their active fragments, and isolated TNF related ligands I and 3 (TNRL1 and TNRL3) or their active fragments. APO4 is useful for diagnosing prostate cancer by determining levels of APO4 in an individual. Prostate cancer can also be treated using APO4 selective binding agents linked to a therapeutic molety. APO4 polypeptides are also useful for identifying selective binding agents to the polypeptide/active fragment which is extracellular, or expressed on the cell surface. The binding is preferably performed in cc vivo. APO4 polypeptides/active fragments are also useful for screening for agents to an antagonists by binding and observing the changer in APO4 activity. Effective pharmacological agents useful for screening cc activity. Effective pharmacological agents useful in diagnosis or treatment of disease are also identified using APO4 polypeptides/active fragments and APO4 signal transducer molecules that specifically interact with a cytoplasmic domain of APO4 and detecting a change in level of APO4 activity. The method is performed in vivo or in vitro. APO polypeptides are all useful as immunogens for preparing antibodies. APO4 is also useful for diagnosis/treatment of developmental or gestational also mormalities. APO8 was transfected to human breast carcinoma cell line
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 40; Fig 13A; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 useful for diagnosis and treatment of prostate developmental or gestational abnormalities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New Tumor Necrosis Factor family receptor polypeptides and ligands useful for diagnosis and treatment of prostate cancer and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 1999-205191/17.
N-PSDB; AAX23424.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           developmental abnormality; gestational abnormalitity; prostate cancer;
APO6; APO8; TNRL-1; TNRL-3; diagnosis; treatment; therapy; disease;
cytoplasmic domain; immunogen; antibody preparation; breast carcinoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (UNIW ) UNIV WASHINGTON.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     apoptosis; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tumour necrosis factor receptor; signal transducer molecule; TNF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human TNRL3
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                                     apoptosis.
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ARM47
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ID ARW47
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                                                                                               The sequence is that of mouse tumour necrosis factor related ligand (TRELL). TREIL or active fragments can be included with a carrier in pharmaceutical compositions to treat cancer, autoimmune diseases or immune responses to tissue grafts, or to stimulate or suppress the immune system. It is useful to screen for TRELL receptors, by labelling with a detectable label and screening compositions for binding. Agents interfering with TREIL-receptor binding can also be screened for, can then be administered, optionally with interferon- gamma, to induce cell death or treat, suppress or alter immune responses (especially involving human adenocarcinoma cells) involving a signal pathway between TRELL and its
                receptor. It's coding sequence can be used in gene therapy for TRELL-related disorders in mammals (especially humans), e.g. tumours autoimmune and inflammatory diseases or inherited genetic disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tumour necrosis factor related ligand - useful for, e.g. treating cancer, auto-immune disease and immune responses to tissue grafts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1998-145619/13
N-PSDB; AAV18599.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Browning JL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-OCT-1996;
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07-AUG-1996;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             graft rejection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cancer; autoimmune disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRELL; tumour necrosis factor related ligand; tnf; treatment;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (UYGE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (BIOJ )
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describes a method for preventing or treating an immunological disorder and/or inhibiting an immune response in an animal. The method comprises administering a TWEAK blocking agent. The method may be used for preventing and treating immune disorders associated with inappropriate expression and/or activity of TWEAK. These disorders include autoimmune diseases, acute and chronic inflammation, organ transplant rejection, Graff-versus-Bost disease (GVHD), lymphoid cell malignancies, septic and other forms of shock, loss of immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 amounts of a vector, e.g. a virus comprising a gene encoding TRELL. It may also be of use in the preparation of prepare probes for screening natural/synthetic DNAs for TRELL-encoding sequences
                                                                                                                                                                                                                                                                                                                                                  Preventing and treating immune responses using modulators, especially antibodies, of TWEAK TWEAK receptors and TWEAK ligands, useful for treating e.g. inflammation and graft versus host disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TWEAK protein; immunological disorder; immune response; inflammation; TWEAK blocking agent; autoimmune disease; organ transplant rejection; Graft-versus-Host disease; GVHD; lymphoid cell malignancy; shock; tumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and for antisense therapy.
                                                                                                                                                                                                                                        The present sequence represents a TWEAK protein.
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                                                                                                                                                                                                                                                                                                  Disclosure;
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Best Local
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This invention describes isolated Tumor Necrosis Factor (TNF) family receptor polypeptides: APO4, APO6, APO8 and APO9 or their active fragments, and isolated TNF related ligands 1 and 3 (TNRL1 and TNRL3) or their active fragments. APO4 is useful for diagnosing prostate cancer by determining levels of APO4 in an individual. Prostate cancer can also be treated using APO4 selective binding agents linked to a therapeutic molety. APO4 polypeptides are also useful for identifying selective binding agents, useful in diagnosis/treatment of disease by binding of
                                                                                                                                                                                                                                                                                                              New Tumor Necrosis Factor family receptor polypeptides and ligands useful for diagnosis and treatment of prostate cancer and developmental or gestational abnormalities
                                                                                                                                                                                                                                                              Claim 40; Fig 13B; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 1999-205191/17.
N-PSDB; AAX23425.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chaudhary PM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tumour necrosis factor receptor; signal transducer molecule; TNF; APO4; developmental abnormality; gestational abnormalitity; prostate cancer; APO6; APO8; APO9; TNRL-1; TNRL-3; diagnosis; treatment; therapy; disease; cytoplasmic domain; immunogen; antibody preparation; breast carcinoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UNIW ) UNIV WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-SEP-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            apoptosis; mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mouse TNRL3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EQLVRPRRSAPKGRKARPRRAIAAHYEVHPRPGQDGAQAGVDGTVSGWBETKINSSSPLR 121
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199; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                211
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Pred. No. 2.9e-89;
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Detecting treatment

nucleic acid encoding TREPA - useful for diagnosis of autoimmune disease, tumours and inflammation ${\bf r}$

WPI; 1998-447255/38

The TNF-related endothelium

proliferative

agent (TREPA), or

Claim 16; Page 125-6; 142pp; English.

10-FEB-1998; 12-FEB-1997;

98US-0021706. 97US-0798692. 98WO-US02859

12-FEB-1998; 13-AUG-1998

(ABBO) ABBOTT

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TNF related endothelium proliferative agent protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO9835061-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tissue grafting;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               134 RKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRA
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Pred. No. 2.5e-84;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 promote wound healing or tissue grafting, by promoting vascularisation, also to induce apoptosis for treating cancer and eliminating autoreactive T cells, as an adjunct to cancer chemotherapy or antiviral treatment. TREPA peptides can also be used to target cytotoxic agents or for affinity isolation of the corresponding receptor, the nucleic acid for which can be used to transform tumour cells to render them more responsive to TREPA and to screen for TREPA minics.
                                                                                                                                                                                                                                                                                                                                                                           Wiley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; tumour necrosis factor; TNF; angiogenesis; wound healing; tumour; TREPA; TNF related endothelium proliferative agent; metastasis; grafting vulnerary; HUVEC; human umbilical vein endothelial cell; UL4flag.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human UL4flag TREPA soluble construct.
                                                                                                                                                                    Inducing angiogenesis in mammal at desired sites for promoting wound healing, by administering soluble fragment of extracellular domain of tumor necrosis factor related endothelium proliferative agent protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12-FEB-1997;
10-FEB-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   $
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98US-0021706.
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Pred. No. 1.4e-67;
0; Mismatches 1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             156
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The present invention relates to extracellular signal molecules

Example

2

Column

75-78;

53pp; English

The present invention relates to extracellular signal molecules, particularly members of tumour necrosis factor (TNF) family molecules designated as TREPA (TNF related endothelium proliferative agent).

Soluble biologically active TREPA are used to treat TREPA-associated

tumours or metastases. TREPA is used for inducing for promoting wound healing and for vascularising

inducing angiogenesis larising grafted

diseases,

Example 14;

Fig

1;

53pp; English.

Inducing angiogenesis in mammal at desired sites for promoting wound healing, by administering soluble fragment of extracellular domain of tumor necrosis factor related endothelium proliferative agent protein

Wiley SR

(ABBO) ABBOTT 12-FEB-1997; 10-FEB-1998;

LAB

97US-0798692. 98US-0021706.

WPI; 2001-280760/29.

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                                                                                                                                                                                                                                                                                                  particularly members of tumour necrosis factor (TNF) family molecules designated as TREPA (TNF related endothelium proliferative agent). Soluble biologically active TREPA are used to treat TREPA-associated diseases, tumours or metastases. TREPA is used for inducing angiogenesis in human for promoting wound healing and for vascularising grafted tissue for successful grafting and to promote tissue grafts. The present amino acid sequence is human furflag TREPA soluble construct. This sequence which is a biologically active molecule is capable of inducing proliferation in HUVEC (human umbilical vein endothelial cells) cells.
                                                                                                                                                                                                                                                                      Sequence
 157
                                                                                                    192
                                                                                                                                                                     132
                                                                  97
                                                                                                                                    37
                                                                                                                                                                                                                   Local
ALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH 189
                 ALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH
                                                                                  RAGLYYLYCQVHFDEGKAYYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLL
                                                                                                                                  KGRKTRARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVT
                                                                  RAGLYYLYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLL
                                                                                                                                                                                                                   Similarity
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99.3%;
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Pred. No. 1.4e-67;
0; Mismatches 1
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AAE00895 standard; Protein; 146
                                                                                                                                                                         grafting; vulnerary.
                                                                                                                                                                              Human; tumour necrosis factor;
TREPA; TNF related endothelium
                                                                                                                                                                                                           04-JUL-2001
                                                                                                                                                                                                                      AAE00895;
                                                                                                                              26-JUN-1998;
                                                                                                                                         27-MAR-2001
                                                                                                                                                              Homo sapiens
                                                                                                                                                                                               Human TREPA
                                                                                                                                                                                               (TNF
                                                                                                                                                                                                          (first entry)
                                                                                                                              9805-0105343
                                                                                                                                                                                               related endothelium
                                                                                                                                                                              TNF; angiogenesis; wound healing;
proliferative agent; tumour; meta
                                                                                                                                                                                               proliferative agent) fragment.
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Result
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Maximum DB seq length: 2000000000
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Match
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Gapop 60.0 , Gapext 60.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version 5.1.5
Copyright (c) 1993 - 2003 Compugen Ltd.
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sp_bacteria:*
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sp_mhc:*
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098IJ0
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Q8SXH4
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Q9zg99 pseudomonas
Q9d378 mus musculu
Q9cpr8 mus musculu
Q8szb8 drosophila
O58554 pyrococcus
Q99908 homo sapien
Q9bpv2 homo sapien
                                                                                                                                  Q9bui
                                                                                                                                                             Q9hst7 halobacteri
Q9sdil oryza sativ
Q9vv70 drosophila
                                                                                                              Q9buil homo sapien
Q8sxh4 drosophila
                                                                                                                                                                                                            Q8x4j8 escherichia
Q98ij0 rhizobium 1
Q9bx52 homo sapien
                                                                                                                                                                                                                                                                             Description
                                                                                                                                              Q9wyu0 thermotoga
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45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
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	esch	Q9p074 homo sapien	Q9a4g4 caulobacter		Q8rqs4 serratia ma	Q16193 homo sapien		capra h			Q9n8u8 trypanosoma	4	_	Q9ytu9 influenzavi		Q8r1p9 mus musculu	mus		Q9rri8 deinococcus	œ		Q9ufm5 homo sapien			Q9shd8 arabidopsis			Q8tuu8 methanopyru

ALIGNMENTS

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63 IGLALACIGL 72 40 IGLALACIGL 49	Query Match 3.5%; Score 10; DB 16; Length 111; Best Local Similarity 100.0%; Pred. No. 0.13; Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps	SEQUENCE 111 AA; 12165 MW; 7CEFC93D786CD759 CRC64;		interPro; IPR000620; DUF6.	EMBL; AE005458; AAG57389.1;	Nature 409:529-533(2001).	"Genome sequence of enterohaemorrhagic Recherichia coli O157:H7 ":	Apodaca J., Anancharaman T.S., Lin J., Yen G., Schwartz D.C.,	Grotbeck E.J., Davis N.W., Lim A., Dimalanta E.T., Potamousis K.,	Posfai G., Hackett J., Klink S., Boutin A., Shao Y., Miller L.,	Rose D.J., Mayhew G.F., Evans P.S., Gregor J., Kirkpatrick H.A.,	Perna N.T., Plunkett G. III, Burland V., Mau B., Glasner J.D.,	MEDLINE=21074935; PubMed=11206551;	STRAIN=0157:H7 / EDL933 / ATCC 700927;	SEQUENCE FROM N.A.	[1]	NCBI_TaxID=83334;	Escherichia.	Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;	Escherichia coli 0157:H7.			(TrEMBLrel. 21, Last		2002 (TrEMBLrel.	Q8X4J8;	Q8X4J8 PRELIMINARY; PRT; 111 AA.	4J8

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RESULT 2
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AC 0981
DT 01-0
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DT 01-0
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RM (11)
RP SEQU
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RESULT 4
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ID Q9HS
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STRAIN-MAFF303099; PubMed=11214968;

MEDLINE=2108230; PubMed=11214968;

MEDLINE=2108230; PubMed=11214968;

MEDLINE=2108230; PubMed=11214968;

Kaneko T., Nakamura Y., Sato S., Asamizu E., Kato T., Sasamo Natanabe A., Idesawa K., Ishikawa A., Kawashima K., Kimura T.

Kishida Y., Kiyokawa C., Kohara M., Matsumoto M., Matsumo A.

Mochizuki Y., Nakayama S., Nakazaki N., Shimpo S., Sugimoto Takeuchi C., Yamada M., Tabata S.;
Q9HST7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           O9BX52:
01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
DJ831C21.1 (Novel protein similar to gamma-glutamy1
transpeptidase-related protein (GGT-Rel)) (Fragment).
DJ831C21.1.
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Mammalia; Eutheria;
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Bacteria; Proteobacteria; alpha subdivision;
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Primates;
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PRT;
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A Ng W V. Kennedy S.P., Mahairas G.G., Berguist B., Pan M.,

A Ng W V., Kennedy S.P., Mahairas G.G., Berguist B., Pan M.,

A Shukla H.D., Lasky S.R., Baliga N.S., Thorsson V., Sbrogna J.,

A Swartzell S., Well D., Hall J., Dahl T.A., Welti R., Goo Y.A.,

A Leithauser B., Keller K., Cruz R., Danson M.J., Hough D.W.,

A Maddocks D.G., Jablonski P.E., Krebs M.P., Angevine C.M., Dale H.,

A Isenbarger T.A., Peck R.F., Pohlschroder M., Spudich J.L., Jung K.-H.,

A Alam M., Freitas T., Hou S., Daniels C.J., Dennis P.P., Omer A.D.,

A Alam M., Freitas T.M., Liang P., Riley M., Hood L., DasSarma S.;

T "Genome sequence of Halobacterium species NRC-1.;

"Genome sequence of Halobacterium species NRC-1.;

"Froc. Natl. Acad. Sci. U.S.A. 97:12176-12181(2000).

EMBL; AE004976; AAG18715.1; -.

W Complete proteome.
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01-MAR-2001
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                                                      STRAIN-CV.
Sasaki T.,
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SEQUENCE FROM N.A.
STATU-CV. NIPPONBARE;
                                                                                                                       Sasaki T., Matsumoto T., Yamamoto K.;
"Oryza sativa nipponbare(GA3) genomic
clone:OSJNBa0036E02.";
                                                                                                                                                           STRAIN-CV.
                                                                                                                                                                                                                    Sasaki T., Matsumoto T., Yamamoto K.;
"Oryza sativa nipponbare(GA3) genomic
clone:P0003H10.";
                                                                                                                                                                                                                                                                                                        Spermatophyta; Magnollophyta; Elliopalda; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza
                                                                                                                                                                                                                                                                                                                                                                                        01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
Hypothetical protein (OSJNBA0036E02.6 protein) (B10
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Archaea; Euryarchaeota; Halobacteria;
Halobacteriaceae; Halobacterium.
                          "Oryza sativa nipponbare(GA3) clone:B1085F09.";
                                                                                                                                                                                                      Submitted (NOV-1999)
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8; Conserv
(JAN-2001) to the 0815; BAA87834.1;
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                                                    NIPPONBARE;
Matsumoto T.,
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(TremBLrel. 16, Last sequence update)
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                                                    Yamamoto
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Pred. No.
            EMBL/GenBank/DDBJ databases
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15;
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                                                                                                                                                        RA Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottler P.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottler R., Chandra I.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C. Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Dowler S.M.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Dowler S.M.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Dew I., Dietz S.M.,
RA Chorson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
RA Dodson K., Doup L.E., Downes M., Dew I., Dietz S.M.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
RA Harris N.L., Harvey D., Heiman T.J., Wei M.-H., Ibegwam C.,
RA Harris N.L., Harvey D., Heiman T.J., Wei M.-H., Ibegwam C.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., McIntosh T.C., McLeod M.P., McPherson D.,
RA Mount S.M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
RA Melson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Melson D.R., Nelson K.A., Nixon K., Nusskern D.R., Pacleb J.M.,
RA Rahenert K., Remington K., Stapleton M., Stupski M.P., Smith T.,
RA Sylie B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
RA Sylie B.C., Shon M., Shon M., Shao Q., Zhao Q., Zheng L.,
RA Yebng X.H., Zhong E., McD., Nalson G., Zhao Q., Zheng L.,
RA Zheng X.H., Zhong G., Zhao Q.
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Best Local
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01-MAY-2000 (TrEMBLrel.
01-JUN-2002 (TrEMBLrel.
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                                                                               Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.; "The genome sequence of Drosophila melanogaster."; science 287:2185-2195(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
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                   FlyBase; FBgn0036638;
InterPro; IPR004019; Y
                                                           EMBL; AE003527; AAF49452.1
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nes 8; Conserv
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21,
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Best Local S
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Best Local S
Matches 8
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MEDLINE-99287316; PubMed-10360571;

Melson K.E., Clayton R.A., Gill S.R., Gwinn M.L., Dodson R.J.

Melson K.E., Clayton R.A., Gill S.R., Gwinn M.L., Dodson R.J.

Melson K.E., Clayton R.A., Gill S.R., Melson W.C., Ketchum R.

Medonald L., Utterback T.R., Malek J.A., Linher K.D., Garrett

Stewart A.M., Cotton M.D., Pratt M.S., Phillips C.A., Richard

Meldelberg J., Sutton G.G., Fleischmann R.D., Eisen J.A., Whi

Melson S.L., Smith H.O., Venter J.C., Fraser C.M.;

"Evidence for lateral gene transfer between Archaea and Bacter genome sequence of Thermotoga maritima.";

Nature 399:323-329(1999).
                                                                                                                                                                                                                                                                                                                                  Q9BUII;
01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical 22.8 kDa protein.
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                                                                   Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases EMBL, BC002598; AAH02598.1; ... Interpro; IPR004299; MBOAT_fam.
                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9BUI1
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NCBI_TaxID=2336;
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01-NOV-1999
    Hypothetical protein SEQUENCE 199 AA; :
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                                                                                                                                                                        TISSUE-BRAIN;
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                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human)
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Q9ZG99;
Q9ZG99;
Q1-MAY-1999 (TrEMBLrel. 10, Cr
101-MAY-1999 (TrEMBLrel. 10, Lr
1 01-DEC-2001 (TrEMBLrel. 19, Lr
1 01-DEC-3001 (TrEMBLrel. 19, Lr
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Best Local :
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Best Local :
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                                                                                    [1]
SEQUENCE FROM N.A.
STRAIN-ATCC 15692 / PAO1;
STRAIN-ATCC 15692 / PAO1;
Langaee Y.T., Dargis M., Huletsky A.;
"An ampD gene in Pseudomonas aeruginosa encodes a negative regulator of ampC beta-lactamase expression.";
of ampC beta-lactamase expression.";
AuG-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pterygota; Neopte
Ephydroidea; Dros
NCBI_TaxID=7227;
SEQUENCE FROM N.A.

STRAIN-ATCC 15692 / PAO1;

MEDLINE-20437337; PubMed-10984043;

Stover C.K., Pham X.-Q.T., Erwin A.L., Mizoguchi S.D., Warrener P.,

Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M. Hickey M.J., Brinkman F.S.L., Tolentino E., Westbrock-Wadman S., Yuan Y.,

Garber R.L., Goltry L., Tolentino E., Westbrock-Wadman S., Yuan Y.,

Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M.,

Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases. EMBL; AY089634; AAL90372.1; -. SEQUENCE 211 AA; 23780 MW; 82FF4983E91F510A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Stapleton M., Brokstein P., Hong L., Agbayani A., Carlson J., Champe M., Chavez C., Dorsett V., Dresnek D., Farfan D., Frise E., George R., Gonzalez M., Guarin H., Krommiller B., Li P., Liao G., Miranda A., Mungall C.J., Nunco J., Pacleb J., Paragas V., Park S., Patel S., Phouanenavong S., Wan K., Yu C., Lewis S.E., Rubin G.M.,
                                                                                                                                                                                                                                      Pseudomonas aeruginosa.
Bacteria; Proteobacteria;
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01-JUN-2002
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8; Conser
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Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
a; Drosophilidae; Drosophila.
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RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Pukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Fosole G., Quackenbush J.,
RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Ringwald M., Rodriguez I., Sakanoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyo-oka K., Wang K.H., Weltz C., Whittaker C., Wilning L.,
RA Suzuki H., Toyo-oka K., Wang K.H., Weltz C., Whittaker C., Wilning L.,
RA Kandota N., Rodriguez I., Sakanoto N.,
RA Suzuki H., Kohfenik S., Wang K.H., Weltz C., Whittaker C., Wilning L.,
RA Kandota N., Rodriguez I., Sakanoto N.,
RA Suzuki H., Kohfenik S., Weltz C., Whittaker C., Wilning L.,
RA Kandota N., Rodriguez I., Kandya H., Kohfenik S.,
RA Kandota N., Rodriguez I., Kandya H., Kohfenik S.,
RA Kandota N., Rodriguez I., Kandya H., Kohfenik S.,
RA Kandota N., Rodriguez I., Kandya Y., Kan
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Best Local :
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Q9D378;
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CHEATN-C57BL/6J; TISSUE-MEDULLA OBLONGATA;

CHEATN-C57BL/6J; TISSUE-MEDULLA OBLONGATA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Reizer J., Saier M.H., Han "Complete genome sequence opportunistic pathogen.", Nature 406:559-964(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                     SEQUENCE
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01-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Transmembrane; Complete proteome. SEQUENCE 278 AA; 30793 MW; C623F1AB0691CFEF CRC64;
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                                                                                                                                                                                                                                                                                                      Wynshaw-Boris A., Yoshida
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41
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8; Conser
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                                                                   100.08;
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                                                                                         Score 8;
Pred. No
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                                                                       red. No. 26;
Mismatches
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26;
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26;
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RESULT 12 Q9CPR8 ID Q9CPR8

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Best Local S
Matches 8
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Q8SZB8;
Q1-JUN-2002
01-JUN-2002
01-JUN-2002
RE07882p.
CG1169.
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5730494G16KIn.
Mus musculus (Mouse).
Mus musculus (Mouse).
Metazoa; Chordata;
Metazoa; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 **Ruquier P.H., Chomez P.M., De Backer O.R., Bertrand M.J.

"Ten new murine members of the MAGE gene family.";

Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases

EMBL; AK01772; BAB30899.1; -

EMBL; AK010794; BAB26830.1; -

EMBL; AK010994; BAR26830.1; -

EMBL; AK019979; AAK01207.1; -

MGD; MGI:1913897; 5730494G16Rik.

Interpro; IPR002190; MAGE.

Pfam; PF01454; MAGE; 1.

SEQUENCE 279 AA; 31460 MW; FE2435919BD63160 CRC64;
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01-JUN-2001 (TrEMBLrel. 17, Last
01-JUN-2001 (TrEMBLrel. 17, Last
5730494G16Rik protein (Mage-g1).
                                                                Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Trachea
Pterygota; Neoptera; Endopterygota; Dip
Ephydroidea; Drosophilidae; Drosophila.
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STRAIN-C57BL/6J; TISSUE=EMBRYO, ANI
MEDLINE-21085860; PubMed-11217851;
 STRAIN-BERKELEY;
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                  SEQUENCE FROM N.A.
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                                                                                     Arthropoda; Tracheata;
; Endopterygota; Diptera
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"Complete sequence and gene organization of the genome of a h
                            Eukaryota; Metazoa;
Mammalia; Eutheria;
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DNA Res. 5:55-76(1998).
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EMBL; BC002164; AAH02164.1; -.
EMBL; BC002512; AAH02512.1; -.
InterPro; IPR004299; MBOAT_fam.
Pfam; PF03062; MBOAT; 1;
SEQUENCE 343 AA; 38727 MW; F7
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SEQUENCE FROM N.A.
MEDLINE-96273128; F
                                                                                                                                                                                                                                                                                   Q8TUU8 PRELIMINARY; PRT; 370 AA.
Q8TUU8;
Q9TUU8;
Q1-JUN-2002 (TIEMBLrel. 21, Created)
Q1-JUN-2002 (TIEMBLrel. 21, Last sequence update)
Q1-JUN-2002 (TIEMBLrel. 21, Last annotation update)
Permease subunit of a ABC-type transport system involved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      O9BPV2;
O1-JUN-2001 (TrEMBLrel. 17, Created)
O1-JUN-2001 (TrEMBLrel. 17, Last sequence update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Unknown (protein for MGC:4221) (protein for MGC:2099).
Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.
SEQUENCE FROM N.A.
STRAIN-AV19 / DSM 6324 / JCM 9639;
MEDLINE-21927647; PubMed-11930014;
Slesarev A.I., Mezhevaya K.V., Makarova K.S.,
Shcherbinina O.V., Shakhova V.V., Belova G.I.,
                                                                                                                                                                             Methanopyrus
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TISSUE-KIDNEY, AND COLON;
Strausberg R.;
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EMBL; S82470; AAB37433.1; -.
InterPro: IPR00429; MBOAT_fam.
Pfam; PF03062; MBOAT; 1.
SEQUENCE 342 AA; 38163 MW; 2847
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                                                                                                                                                                                                      Archaea; Euryarchaeota;
                                                                                                                                                                                                                                Methanopyrus kandleri.
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b; Pred. No. 32;
0; Mismatches
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BB1, overexpressed in blad
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Matches 8
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RR HSSP; PS520; JuBQ.

RR HSSP; PS520; JuBQ.

R Fuberculist; Rv0848; -.

InterPro; IPR001926; B6_enzyme_beta.

R Hypothetical protein; Complete proteome.

SEQUENCE 372 AA; 40118 MW; 927386BEIDF5FB6C CRC64;
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O9KYT3; PRELIMINARY; PRT;
01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last seq
01-JUN-2002 (TrEMBLrel. 21, Last and
Putative integral membrane SCO5682 OR SC5H4.06C. Streptomyces coelicolor.
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CYSM3 OR RV0848 OR MTV043.41.

Mycobacterium tuberculosis.

Bacteria; Firmicutes; Actinobacteria; Actinobacteridae;

Actinomycetales; Corynebacterineae; Mycobacteriaceae; Mycobacterium.

NCBI_TaxID-1773;
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O1-JUN-1998 (TrEMBLrel.
O1-JUN-1998 (TrEMBLrel.
O1-JUN-2002 (TrEMBLrel.
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100.0%; Pr
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06, Last sequence update)
21, Last annotation update)
                              , Last sequence up, Last annotation protein.
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Pred. No. 34;
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D. 34;
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Shinn P., Chen H., Cheuk R., Kim C.J., Lim J., Meyers M.C., Ban Bowser L., Carninci P., Chang E., Dale J.M., Goldsmith A.D., Hayashizaki Y., Ishida J., Jones T., Kamiya A., Karlin-Neumann Kawai J., Lam B., Lee J.M., Lin J., Miranda M., Narusaka M., Nguyen M., Onodera C.S., Palm C.J., Quach H.L., Sakurai T., Sat Seki M., Southwick A., Tang C.C., Toriumi M., Wu H.C., Yamada K Yamamura Y., Yu G., Yu S., Shinozaki K., Davis R.W., Theologis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-20083487; PubMed=10617197;
Lin X., Kaul S., Rounsley S.D., Shea T.P., Benito M.-I., Town C.D.,
Fujii C.Y., Mason T.M., Bowman C.L., Barnstead M.E., Feldblyum T.V.,
Buell C.R., Ketchum K.A., Lee J.J., Ronning C.M., Koo H., Moffat K.S.,
Cronin L.A., Shen M., VanAken S.E., Umayam L., Tallon L.J., Gill J.E.,
Adams M.D., Carrera A.J., Creasy T.H., Goodman H.M., Somerville C.R.,
Copenhaver G.P., Preuss D., Nierman W.C., White O., Eisen J.A.,
Salzberg S.L., Fraser C.M., Venter J.C.;
"Sequence and analysis of chromosome 2 of the plant Arabidopsis
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AT2645000 OR AT2645005.
AT2645000 OR AT2645005.
Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Roside eurosids II; Brassicales; Brassicaceae; Arabidopsis.
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Nature 417:141-147(2002).
EMBL; AL355913; CAB9111B.1; -.
SEQUENCE 377 AA; 37614 MW;
                                                                                                                                                                                                                                                                                       Submitted
                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. STRAIN-CV. COLUMBIA;
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Best Local (
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                                      Goodner B., Hinkle G., Gattung S., Miller N., Blanchard M., Qurollo B., Goldman B.S., Cao Y., Askenzzi M., Halling C., M. Houmiel K., Gordon J., Vaudin M., Iartchouk O., Epp A., Liu Wollam C., Allinger M., Doughty D., Scott C., Lappas C., Mar Flanagan C., Crowell C., Gurson J., Lomo C., Sear C., Strub Cielo C., Slater S.;

"Genome sequence of the plant pathogen and biotechnology age Agrobacterium tummefaciens C58.";

Science 294.2323-2328(2001).
                                                                                                                                                                                                                                                                      Chapman P., Clendenning J., Deatherage G., Gillet W., Grant C., Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A., Raymond C., Rouse G., Saenphimmachak C., Wu Z., Romero P., Gordc Zhang S., Yoo H., Tao Y., Biddle P., Jung M., Krespan W., Perry Gordon Kamm B., Liao L., Kim S., Hendrick C., Zhao Z.-Y., Dolan Chumley F., Tingey S.V., Tomb J.-F., Gordon M.P., Olson M.V., Nester E.W.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence up
01-JUN-2002 (TrEMBLrel. 21, Last annotation
Hypothetical protein Atu3948.
ATU3948 OR AGR.L_1808.
                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-21608550; PubMed-11743193; Wood D.W., Setubal J.C., Kaul R., Monks D.E., Kitajima J.P. Okura V.K., Zhou Y., Chen L., Wood G.E., Almeida N.F. Jr., Chen Y., Paulsen I.T., Eisen J.A., Karp P.D., Boyes D. Sr.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Agrobacterium tumefaciens
Bacteria; Proteobacteria;
Rhizobiaceae; Rhizobium.
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                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE-21608551;
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"Arabidopsis
             EMBL; AE009325; AAL44750.1; EMBL; AE008289; AAK89478.1;
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8; Conserv
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387 مم
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(JAN-2002) to the
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Matches 8
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A Salanoubat M., Genin S., Artiguenave F., Gouzy J., Mangenot S.,

A Arlat M., Billault A., Brottier P., Camus J.C., Cattolico L.,

A Arlat M., Billault A., Brottier P., Camus J.C., Cattolico L.,

A Chandler M., Choisne N., Claudel-Renard C., Cunnac S., Demange N.,

Gaspin C., Lavie M., Moisan A., Robert C., Saurin W., Schiex T.,

A Gaspin C., Lavie M., Moisan A., Robert C., Saurin W., Schiex T.,

A Weissenbach J., Boucher C.A.;

T "Genome sequence of the plant pathogen Ralstonia solanacearum.";

T "Genome sequence of the plant pathogen Ralstonia solanacearum.";

IN ALURE 415:497-502(2002).

IN ALURE 415:497-502(2002).

R EMBL; AL646079; CAD17762.1; -.

R Interpro; IPR001564; NDR.

R PROSITE; PS00469; NDP_KINASES; UNKNOWN_1.

Plasmid; Complete proteome.
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Q9UFM5;
01-MAY-2000 (TrEMBLrel. 13, Create
01-MAY-2000 (TrEMBLrel. 13, Last :
01-MAR-2002 (TrEMBLrel. 20, Last :
Hypothetical 47.4 kDa protein..
DKFZP5660011.
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                                                Blum H., Bauersachs S., Mewe Submitted (SEP-1999) to the EMBL; ALLI17414; CAB55910.1;
                                                                                                                           SEQUENCE FROM
TISSUE-KIDNEY;
                                                                                                                                                                                                   Homo sapiens (Human),
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q8XS70;
                                   MEROPS; T03.002;
          InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-MAR-2002 (TrEMBLrel. 20, Created)
01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation updat
Probable transmembrane protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         217 LVDGVLAL 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID-305;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ralstonia solanacearum (Pseudomonas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RSP0611 OR RS03756.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            251 LALRPGSS 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           341 LALRPGSS 348
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVDGVLAL
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IPR000101; Gglutrnspptdase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
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                                                                                                                                                     N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         47048 MW;
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Last sequ
                                                                          EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                Last sequence update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
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Pred. No.
                                                                                                    H.W.,
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                                                                                               Gassenhuber J., Wiemann
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o. 39;
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5. 36;
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nac S., Demange N.,
in W., Schiex T.,
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RA Addams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Addams M.D., Celniker S.E., Richards S., Ashburner M., Henderson S.N.,
RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Barli J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
RA Barli J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
RA Beson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottler P.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottler P.,
RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
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RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles P.,
RA Geriy J.M., Cawley S., Dahlke C., Davenport L.B., Davles F.K.,
RA Glodek A., Gong F., Karpen G.H., Ke Z., Kennison J.A., Ketchum W.,
RA Klimel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Klimel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Klimel B.E., Kodira C., Davles J.M., McDien D
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01-MAY-2000
01-MAY-2000
CG1169 prote
CG1169.
                         EMBL; AE003600; AAF51889.1; -
FlyBase; FBgn0037428; CG1169.
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Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Musc
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE-20196006; PubMed-10731132;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 LGLGLALA 68
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein.
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RA Baker S., Basham D., Bentley S.D., Brooks K., Cerdeno-Tarraga A.M.,
RA Chillingworth T., Cronin A., Davies R.M., Davis P., Dougan G.,
RA Chillingworth T., Wolroyd S., Jagels K., Karlyshev A.V.,
RA Leather S., Moule S., Oyston P.C.F., Quail M., Rutherford K.,
Railwords M., Skelton J., Stevens K., Whitehead S., Barrell B.G.;
Tenome sequence of Yersinia pestis, the causative agent of plague.";
RATURE 413:523-527(2001).
REMBL, Au414154; CAC92102.1;
Refam; PF00083; sugar_tr; 1.
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01-WAY-2000 (TrEMBLrel. 13, L
01-WAR-2001 (TrEMBLrel. 16, L
White O., Elsen J.A., Heidelberg J.F., Hickey E.K., Peterson J.D., Dodson R.J., Haft D.H., Gwinn M.L., Nelson W.C., Richardson D.L., Moffat K.S., Qin H., Jiang L., Pamphile W., Crosby M., Shen M., Vamathevan J.J., Lam P., McDonald L., Utterback T., Zalewski C., Makarova K.S., Aravind L., Daly M.J., Minton K.W., Fleischmann R.D.,
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MEDLINE=21470413; PubMed=11586360;
                                                                                                                                                  STRAIN-R1
                                                                                                                                                                           SEQUENCE
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                                                                                                                   MEDLINE=20036896; PubMed=10567266;
                                                                                                                                                                                                                                                   Deinococcaceae;
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Q9CY76;
01-JUN-2001 (TrEMBLrel. 1
01-JUN-2001 (TrEMBLrel. 1
01-JUN-2002 (TrEMBLrel. 2
5730589L0ZRIK protein.
5730589L0ZRIK
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Pfam; PF03
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Mus musculus (Mouse).
Mus musculus (Motazoa; Chordata;
Motazoa; Rodentia;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cell expression-enhanced gene/tumor progression-enhanced Homo sapiens (Human).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Eutel Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-DEC-2001 (TrEMBLrel. 19, Created)
01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
CDNA FLJ31346 f1s, clone MESAN1000180, highly similar to BB1-malignant
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Science 286:1571-1577(1999).
Science 286:1571-2577(1999).
EMBL; AE002079; AAF12043.1;
TIGR; DR2502; -.
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Fraser C.M.;
SEQUENCE FROM N.A.
                                        NCBI_TaxID=10090;
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VCE 472 AA; 5:
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Sciurognathi; Muridae;
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RESULT 30
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RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Kadota K., Matsuda H.A., Gojobori T., Bono H., Kasukawa T., Salto R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Kuchi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
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RA Schrimi L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Susuki H., Stato K., Beltcher C., Fujita M., Gariboldi M.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
RA Munshay-Roris A., Yoshida K., Hasgawa Y. Kawaii H., Kohtsuki S.
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Mammalia; Eutheria;
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Interpro; IPR064299; MBOAT_fam.
Pfam; PF03062; MBOAT; 1.
SEQUENCE 473 AA; 53504 MW;
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EMBL; AK019981; BAB31950.1; -.
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Rodentia;
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Pred. No. 42;
Mismatches
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Pred. No. 42;
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H., Adachi J.,
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T., Fukuda (
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RESULT 32
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01-MAY-1999
01-MAY-1999
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Q8QPL0 PRELIMINARY, Q8QPL0; 01-JUN-2002 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
STRAIN-A/DUCK/POTSDAM/2216-4/84;
STRAIN-A9099002; PubMed-9882316;
MEDINE-99099002; PubMed-9882316;
Matrosovich M., Zhou N., Kawaoka Y., Webster R.;
"The surface glycoproteins of H5 influenza viruses isolated from "The surface glycoproteins of H5 influenza viruses isolated from humans, chickens, and wild aquatic birds have distinguishable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hsing Y.C., Chow T., Chen C., Wu H., Chu M., Chao Y., "Oryza sativa PAC P0699E04 genomics sequence, complete Submitted (JAN-2000) to the EMBL/GenBank/DDBJ database EMBL; APO01111; BAA90509.1; -
                                                                                                                                                                                                        PRINTS; PR00329; HEMAGGLUTN12.
ProDom; PD000225; Hemagglutn; 1.
Envelope protein; Glycoprotein;
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(HA1 AND HA2) LINKED BY A DISULFIDE BOND (
-!- SIMILARITY: BELONGS TO THE INFLUENZA HEMAG
EMBL; AF082041; AAD13573.1; -
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                                                                                                                                                                                                                                              HSSP; P0343/; Inim.
InterPro; IPR001364; Hemagglutn.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Influenza A viruses.
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Hsing Y.C., Chow T
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                                                                                                  72 LLLAVVSL 79
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- FUNCTION: HEMAGGLUTININ IS RESPONSIBLE FOR ATTACHING THE VIRUS CELL RECEPTORS AND FOR INITIATING INFECTION (BY SIMILARITY).
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01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-OCT-2000 (TrEMBLrel. 15, Last annotation update)
Possible hypothetical 61.9 kDa protein.
CHR1.338.
                                                                                    Q9N8U8 PRELIMINARY; PRT; 1523 AA.
Q9N8U8 PRELIMINARY; PRT; 1523 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Evidence Ducks.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
STRAIN-A/GOOSE/HONG KONG/3014.8/2000(H5N1);
MEDLINE-218/4832; PubMed-118/8904;
Eukaryota; Euglenozoa;
                                               Trypanosoma brucei
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Trypanosoma brucei.
Eukaryota; Euglenoz
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EMBL; AY059482; AAL31388.1;
NON_TER 568 568
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nes 8; Conserv
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8; Conserv
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100.0%; Pr
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Kinetoplastida; Trypanosomatidae; Trypanosoma
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Melville S., Lawson
.G.;
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-!- TISSUE SPECIFICITY: TESTIS.
-!- MASS SPECTROMETRY: MW-4389; METHOD=ELECTROSPRAY.
Chromosomal protein; Nucleosome core; Spermatogenesi
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Eukaryota; Metazoa; Mollusca; Cephalopoda; Coleoidea;
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Incirrata;
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                          Eukaryota;
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                                                                                                                                                                                                                                                                                                                                                                                                       43 RRRGRRG
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                                                                                                                                                                                                                                                                                                                                                                         RRRGRRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Octopodidae; Octopus
                          Metazoa; Mollusca;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               il protein.
1523 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
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H.E., Chiva M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3381 MW;
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Pred. No.
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                    Cephalopoda; Coleoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
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29;
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Melville S., Lawson
.G.;
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                       Octopoda;
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         RESULT 38
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Best Local S
Matches 7
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Best Local :
                            Q9ZG35; PRELIMINARY;
Q9ZG35; O1-MAY-1999 (TrEMBLrel. 10,
01-MAY-1999 (TrEMBLrel. 10,
01-MAY-1999 (TrEMBLrel. 10,
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J. EXP. ZOO1. 0:00(2001).

J. EXP. ZOO1. 0:00(2001).

J. EXP. ZOO1. 0:00(2001).

J. EXP. ZOO1. 0:00(2001).

SPERM DURING THE HAPLOID PHASE OF SPERMATOGENESIS. THEY COMPACT SPERM DNA INTO A HIGHLY CONDENSED, STABLE AND INACTIVE COMPLEX.

-1- SUBCELULIAR LOCATION: NUCLEAR.

-1- TISSUE SPECIFICITY: TESTIS.

-1- MASS SPECTROMETRY: MW-3941; METHOD-ELECTROSPRAY.

Chromosomal protein; Nucleosome core; Spermatogenesis; DNA-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NON_TER
SEQUENCE
         Hypothetical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (JAN-2001) to the EMBL/GenBank/DDBJ EMBL; AJ292058; CAC27455.1; -.
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DOMAIN 2 15 POLY-ARG.
DOMAIN 17 26 POLY-ARG.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIGNAL
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SEQUENCE FROM N.A.
O'Andrea M., Pilla F., Graziano M.;
O'Andrea M., Pilla F., Graziano M.;
O'Andrea M., Pilla F., Graziano M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bovidae; Caprinae;
NCBI_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrat
Mammalia; Eutheria; Cetartiodactyla; Ruminantia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Capra hircus (Goat).
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ilarity 100.0%;
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Pred. No
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Pred. No.
      (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
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Serratia. Bacteria; Serratia

marcescens.
; Proteobacteria;

gamma subdivision; Enterobacteriaceae;

NCBI_TaxID-615

EQUENCE FROM N.A

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RESULT Q16193
ID Q16193
AC Q107
D7 Q1 Q107
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Usuki K., Gonez L.J., Wernsteut
Claesson-Melsh L., Heldin C.H.;
Structural properties of 3.0 kb and 3.2 kb transcripts en
platelet-derived endothelial cell growth factor/thymidine
phosphorylase in A431 cells.";
Biochim. Biophys. Acta 1222:411-414(1994).
EMBL; S72487; AAD14107.1;
EMBL; S72487; AAD14107.1;
S4 AA; 5808 MW; 827925FBA70CB222 CRC64;
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MEDLINE=94312438; PubMed=8038210;
Usuki K., Gonez L.J., Wernstedt C
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Mammalia; Eutheria;
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"Gene identification
sequencing.";
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NCBI_TaxID=813;
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Bacteria; Chlamydiales; Chlamydiaceae; Chlamydia.
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Q9VMM9;
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01-MAY-2000
01-MAY-2000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; ;
Pterygota; Neoptera;
Ephydroidea; Drosoph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera; Musc
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Baba M., Midorikawa Y., Nakagawa Y., Fujita M., Matsuyama ? Serratia marcescens and Escherichia coli genes controlling temperature-dependent production of structurally unrelated metabolites such as prodigiosin and serrawettin. ?;
                           Zheng X.H., Zhong F.N., Zhong
Gibbs R.A., Myers E.W., Rubin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=20196006; PubMed=10731132;
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                              Zhong W., Zhou X., Zhu S., Rubin G.M., Venter J.C.;
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Matches
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C STRAIN-ATCC 19089 C DBMed-11259647;

X MEDLINE-21173698; PubMed-11259647;

X MIETMAN W.C., Feldblyum T.V., Laub M.T., Paulsen I.T., Nelson K.E.,

A Nierman W.C., Feldblyum T.V., Laub M.R.K., Ohta N., Maddock J.R.,

A Potocka I., Nelson W.C., Newton A., Stephens C., Phadke N.D., Ely B.,

A DeBoy R.T., Dodson R.J., Durkin A.S., Gwinn M.L., Haft D.H.,

A Kolonay J.F., Smit J., Craven M.B., Khouri H., Shetty J., Berry K.,

A Kolonay J.F., Smit J., Craven M.B., Khouri H., Shetty J., Berry K.,

A Utterback T., Tran K., Wolf A., Vamathevan J., Ermolaeva M., White O.,

A Utterback T., Tran K., Wolf A., Vamathevan J., Ermolaeva M., White O.,

A Utterback T., Venter J.C., Shapiro L., Fraser C.M.;

T Complete genome sequence of Caulobacter crescentus.";

Proc. Natl Acad. Sci. U.S.A. 98:4136-4141(2001).
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Q9P074;
01-0CT-2000
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01-JUN-2001
01-MAR-2002
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FlyBase;
"Human partial CDS from
Submitted (MAY-1999) to
                                                                                                Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                             01-OCT-2000 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
                        Ye M., Zhang Q.H., Zhou
Fan H.Y., Mao Y.F., Dai
                                                             SEQUENCE FROM
                                                                                                                      Homo sapiens (Human)
                                                                                                                                 HSPC308 (Fragment)
                                                                                                                                                                                                                                                                                                                                                          Hypothetical protein; Complete proteome. SEQUENCE 86 AA; 7615 MW; EEF86383D9AA545E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hypothetical
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Science 287:2185-2195(2000).
                                                TISSUE-BLOOD;
                                                                                    NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Caulobacter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Caulobacter
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26 LALGLGL
                                                                                                                                                                                                                                                                                                         Local Similarity
nes 7; Conserv
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                                                                                                                                                                                                                                                                                 59 LALGIGI 65
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se; FBgn0031734; CG11147.
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                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                         Conservative
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Primates;
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el. 17,
el. 20,
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J., Shen Y., Wu X.Y.,
M., Huang Q.H., Chen S
cd34+ stem cells.";
the EMBL/GenBank/DDBJ
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15,
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 EMBL/GenBank/DDBJ databases
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                                                                                              Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
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EMBL; AF

AF161426; AAF28986.1; -. ER 94 94

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RA Kasal H., Kimura S., Kitakawa M., Kitagawa M., Makino K., Miki T., Ra Mizobuchi K., Mori H., Mori T., Motomura K., Nakade S., Nakamura Y., Ra Nashimoto H., Nishlo Y., Oshima T., Saito N., Sampei G., Seki Y., Ra Sivasundaram S., Tagami H., Takeda J., Takemoto K., Wada C., RT "A 460-kb DNA sequence of the Escherichia coli K-12 genome corresponding to the 401-50.0 min region on the linkage map.";

DA RES. 3:379-392(1996).

DR EMBL; D90838; BAA15817.1;

ON SEQUENCE 99 AA; 10142 MT.
         QBWQRB
ID QBWQR
AC QBWQR
AC QBWQR
DT 01-MA
DT 01-JU
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01-MAY-1997
01-NOV-1999
SEQUENCE FROM N.A.

Callearts P., Lee P.N., Hartmann B., Farfan C.B., Choy D.W.Y., Fischbach K.F., Gehring W.J., de Couet H.G.;

"HOX genes in the sepiolid squid Euprymna scolopes: implication the evolution of complex body plans.";

Submitted (AUG-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AY052759; AAL25810.1; -.
                                                                                                                                                                                         Eukaryota; Metazoa; Mollusca; Cephalopoda; Coleoidea; Sepioida;
Sepiidae; Euprymna.
NCBI_TaxID-6613;
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P97199;
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88 DGGAVRQ 94
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InterPro; IPR001356; Homeobox.
InterPro; IPR00047; HTH_repressr.
Pfam; PF00046; homeobox; 1.
PRINTS; PR00025; ANTENNAPEDIA.
PRINTS; PR00024; HOMEOBOX.
PRINTS; PR00031; HTHREPRESSR.
PRODOM; PD0000109; Homeobox; 1.
                                                                                             NON_TER
                                                                                   SEQUENCE
                                                                                                                 Homeobox; DNA-binding; Nuclear protein.
                                                                                                                           SMART; SM00389; HOX; 1.
PROSITE; PS00027; HOMEOBOX_1; UNKNOWN_1.
PROSITE; PS50071; HOMEOBOX_2; 1.
            41 SQRRRGR
18 SQRRRGR
                                        h 2.5%; So similarity 100.0%; F 7; Conservative 0;
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24
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Search completed: May 8, 2003, 06:57:36 Job time: 62 secs

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Result
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Perfect score:
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284
1 MSLLDFEISARRLPLPRSLG.....PWAHLKAAPFLTYFGLFQVH
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Copyright (c) 1993 - 2003 Compugen Ltd
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GGT5, HUMAN
HSP1, SAGIM
HSP1, DIDMA
HSP1, DIDMA
A62F, DROME
Y151, ECOLI
IL13, MOUSE
IL13_RAT
            RNFC_PIG
RAO5_ORYSA
HLPA_ECOLI
YLM4_CAEEL
LACB_BUBBU
LACB_SHEEP
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TN12_MOUSE
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PSAB_ODOSI
PSAB_CYACA
  TN14_MOUSE
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4 yersinia pe
0 haemophilus
9 mus musculu
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haemophilus
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Tumor necrosis factor	15-JUN-2002	15-JUN-2002	15-JUN-2002	O43508; Q8WUZ7;	TN12_HUMAN	CN12_HUMAN	RESULT 1			45	44	43	42	41	40	39	38	37	36	35	34	
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ĕr	Last annotation update)	Last sequence update)	(ed)		PRT; 249 AA.				ALIGNMENTS	LEU3_THEAQ	IAG2_RAT	SRA6_CAEEL	ODPB_BACSU	ISPH_XYLFA	TNFC_MARMO	KDTX_SERMA	MOEB_SALTY	MOEB_ECOLI	TNFC_HUMAN	MOEB_HAEIN	RNFE_PSEAE	
12 (
(TNF-related weak										P24098 thermus aqu	035777 rattus norv	Q09208 caenorhabdi			Q9jm10 marmota mon	Q54435 serratia ma			Q06643 homo sapien	P45211 haemophilus	Q9hyb5 pseudomonas	

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TN12_MOUSE
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                                      TN12_MOUSE STANDARD; PRT; 225 AA. 054907; Q9CTP2; 15-JUN-2002 (Rel. 41, Created) 15-JUN-2002 (Rel. 41, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update) Tumor necrosis factor ligand superfamily membrinducer of apoptosis) (TWEAK) (Fragment).
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SITE
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between the Swiss Institute of Bioinformatics and the EMBL outst
the European Bioinformatics Institute. There are no restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CHAIN
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PROSITE; PS50049; TNF_2; 1.
Cytokine; Apoptosis; Transmembrane;
CHAIN 1 249
TUMOR N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
    Eukaryota;
                   Mus musculus
                                TNFSF12
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SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
CAUTION: Ref. 3 sequence differs from that shown due to a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAUTION: Ref.3 sequence differs from frameshift in position 125.
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                                                                                                                                                                                                          TYFGLFQVH
                                                                                                                                                                                                                                                                             LLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFL
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                                                                                                                                                                                                                                                                                                                                                                                              VAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                       MAARRSQRRRGERGEPGTALLVPLALGLGLALACLGLLLAVVSLGSRASLSAQEPAQEEL
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BC019047;
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AF055872; AAC39724.1; -.
BC019047; AAH19047.1; ALT_FRAME.
HGNC:11927; TNFSF12.
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    us (Mouse)
Metazoa;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          249 AA;
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93
139
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 Chordata;
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42
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SIGNAL-ANCHOR (TYPE-II MEMBRANE
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  Craniata;
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TUMOR NECROSIS FACTOR LIGAND
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Vertebrata;.
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    Rawai J. Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
A Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
A Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
A Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kasukawa T., Saito R.,
A Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casawant T.,
A Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casawant T.,
A Kuehi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
A Kuehi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
A Kuehi P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
A Kuehi R., Okido T., Frunno M., Aono H., Baldarelli R., Barsh G.,
A Schriml L.M., Staubli F., Suzuki R., Tomta M., Wagner L., Washio T.,
A Sakai K., Okido T., Frunno M., Aono H., Baldarelli R., Barsh G.,
A Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
A Blake J., Bolt C., Fletcher C., Fujita M., Gariboldi M.,
A Buruntich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
A Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
A Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
A Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
A Suzuki H., Toyo-oka K., Wang K.H., Weltz C., Whittaker C., Wilming L.,
B Wayshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
                                                                                                                                                              EMBL; AKOZUYUY; EMBL; MGD; MGI:1196259; Tnfsf12.
Interpro; IPR000478; TNF_f6
Pfam; PF00229; TNF; 1.
SMART; SM00207; TNF; 1.
 DOMAIN
SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE-Peritoneal macrophage;
MEDLINE-98070415; PubMed-9405449;
Chicheportiche Y., Bourdon P.R., Xu H., Hsu
Hession C., Garcia I., Browning J.L.;
"TWEAK, a new secreted ligand in the tumor
weakly induces apoptosis.";
                                                                                                                                                                                                                                                                                                                                                                 This
                                                                                                                                                                                                                                EMBL; AF030100; AAC53517.1; -. EMBL; AK020909; BAB32249.1; -.
                                                                                                                                                                                                                                                                                                        use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nature 409:685-690(2001).
                                            TRANSMEM
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NCBI_TaxID=10090;
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                                                                                                                                               PROSITE;
                                                                                                                                                             PROSITE;
                                                                                                                                                                                                                                                                                            entities
                                                                                                                                                                                                                                                                                                                                                     between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Functional annotation of a full-length mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hayashizaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-21085660; PubMed-11217851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 83-225 FROM N.A. STRAIN-C57BL/6J; TISSUE-Retina;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-C57BL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 activation (By similarity).
SUBUNIT: Homotrimer (Potential)
SUBCELLULAR LOCATION: Type II m
                                                                                                                                                                                                                                                                                                                                                                                                                                     similarity).
TISSUE SPECIFICITY: WIDELY EXPRESSED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          inducer of apoptosis in some cell types. the proliferation of endothelial cells.
                                                                                                                                               PS00251; TNF_1; PS50049; TNF_2;
                                                                                                                                                                                                                                                                                            requires a license agreement
                                                                                                                                Apoptosis;
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272:32401-32410(1997).
                                                                       225
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                                                                                                                                                                                                       TNF_family
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 EXTRACELLULAR CLEAVAGE (BY S
                               (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 membrane
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Rodentia; Sciurognathi; Muridae; Murinae;
  Mus
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Y.-M., Scott

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necrosis factor family that

cDNA collection.";

FUNCTION: Binds to FN14 and possibly also to TNRFSF12/APO3. Weak inducer of apoptosis in some cell types. Promotes angiogenesis a Mediates s angiogenesis NF-KappaB and

protein and secreted (By

PTM: The soluble form is produced from the membrane form proteolytic processing (By similarity).
SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY. from the form

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Transmembrane; Glycoprotein; Signal-anchor.

MEMBER 12, MEMBRANE FORM.
TUMOR NECROSIS FACTOR LIGAND SUPERFAMILY
MEMBER 12, SECRETED FORM (BY SIMILARITY)
SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN) TUMOR NECROSIS FACTOR LIGAND (POTENTIAL) SUPERFAMILY

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Best Local
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                                                                                                                                                                                         TRANSMEM TRANSMEM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Snarma V., Hudspeth M.E., Meganathan R.; "Menaquinone (vitamin K2) biosynthesis: characterization of the menE gene from E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=97426617; PubMed=9278503; Blattner F.R., Plunkett G. III, Bloch Riley M., Collado-Vides J., Glasner J.
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                                                                                                                                                                                                                                 Hypothetical TRANSMEM
                                                                                                                                                                                                                                                   EcoGene; EG14344; yfbW.
InterPro; IPR000620; DUF6.
Pfam; PF00892; DUF6; 1.
Hypothetical protein; Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                     entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                               the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
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                                                                                                                                                                   SEQUENCE
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EMBL; L35031; AAB04895.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "The complete genome sequence of Escherichia coli K-12."; Science 277:1453-1474(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mau B., Shao Y.;
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15-JUN-2002 (Rel. 41, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SUBCELLULAR LOCATION: Integral membrane protein (Potential).
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32; Conser
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62 82
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01-FEB-1996 (Rel. 33, I
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Photosystem I P700 chic
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  SEQUENCE
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METAL
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-I- FUNCTION: PsaA and psaB bind P700. The primary electron donor of photosystem I (PSI), as well as the electron acceptors A0, A1, an FX. PSI functions as a plastocyanin/cytochrome c6-ferredoxin
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Biddulphiophycidae; Eupod:
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iscales; Eupodiscaceae;
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                                           IRON-SULFUR FX (4FE-4S) (BY SIMILARITY IRON-SULFUR FX (4FE-4S) (BY SIMILARITY P700 SPECIAL PAIR CHLOROPHYLL AXIAL LIGAND (BY SIMILARITY).

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AO CHLOROPHYLL (BY SIMILARITY).

A1 PHYLLOQUINONE (BY SIMILARITY).
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VIII (POTENTIAL).
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RESULT 5

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PRINTS; PR00257; PHOTSYSPSAAB.
PROSITE; PS00419; PHOTOSYSTEM_I_PSAAB; 1.
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or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     is a phylloquinone and FX is a 4Fe-4S fron-sulfur center. SUBUNIT: A psaA/B heterodiner binds the P700 chlorophyll special pair and subsequent electron acceptors. The PSI reaction center higher plants and algae is composed of one at least 11 subunits. SUBCELLULAR LOCATION: Integral membrane protein. Chloroplast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY: BELONGS TO THE PSAA/PSAB FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           oxidoreductase. COFACTOR: P700 is a chlorophyll A dimer, A0 is chlorophyll A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FUNCTION: PsaA and psaB bind P700, the primary electron donor photosystem I (PSI), as well as the electron acceptors AO, A1, FX. PSI functions as a plastocyanin/cytochrome c6-ferredoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              thylakoid membrane
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9; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Evol. 51:382-390(2000).
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Rel. 4
Rel. 4
Rel. 4
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40, Last sequence update)
41, Last annotation update)
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                                                                                                                                                                                                                                                                                                             Chlorophyll
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VI (POTENTIAL).
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X (POTENTIAL).
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II (POTENTIAL).
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VIII (POTENTIAL).
IRON-SULFUR
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RESULT 7
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                                                                                                                                                                                                                                                                                                                                                      bound alcohol dehydrogenase from Gluconobacter suboxydans and the expression in Acetobacter pasteurianus.";
Appl. Environ Microbiol. 63:1131-1138(1997).
-1- FUNCTION: NOT ESSENTIAL FOR ALCOHOL DEHYDROGENASE ACTIVITY.
-1- SUBUNIT: HETEROTRIMER (DEHYDROGENASE, CYTOCHROME AND PROTEIN ADHS), THAT FORMS THE ALCOHOL DEHYDROGENASE COMPLEX.
-1- SUBCELLULAR LOCATION: MEMBRANE-BOUND, FACING THE PERIPLASMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADHS_GLUOX
O05544;
Q8YD73;
                                                                                                                                                                                        CHAIN
                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
           Y304_BRUME
                                                                                                                                                                                                                                               use by non-profit institutions as long modified and this statement is not removed entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gluconobacter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gluconobacter oxydans (Gluconobacter suboxydans).
Bacteria; Proteobacteria; alpha subdivision; Acetobacteraceae;
                                                                                                                                                                                                    SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-1997
16-OCT-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                        "Characterization of the genes encoding the three-component membrane-
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Kondo K., Horinouchi
                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=97208225; PubMed=9055427;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-IFO 12528;
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e 15 kDa subunit p
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                                                                                                                  Score 8; DB 1; Pred. No. 4.1
0; Mismatches
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0; Mismatches
                                                                                                                                                                 ALCOHOL DEHYDROGENASE 15 KDA PYRROLIDONE CARBOXYLIC ACID.; F6AF243656B3CC66 CRC64;
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A0 CHLOROPHYLL (BY SIMILARITY).

A0 CHLOROPHYLL (BY SIMILARITY).

A1 PHYLLOQUINONE (BY SIMILARITY).

A1 PHYLLOQUINONE (BY SIMILARITY).
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            PRT;
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            220
                                                                                                                       DB . 4.1;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 1;
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15-JUN-2002 (Rel. 4 15-JUN-2002 (Rel. 4 15-JUN-2002 (Rel. 4

41, 41,

Created)
 Last sequence upons
 Last annotation of the base in the

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RESULT 8

NSHR_PANTR
ID MSHR_P
AC Q9TUKA
DT 16-OCT
DT 16-OCT
DT 16-OCT
DT 16-OCT
DE Mclano
DE recept
GN MC1R.
OS Pan tr
CC Eukary
OC Mammal
OX NCBIT
RN [1]
RP SEQUEN
RA Rees J
RA Flanag
RA Birch-
RT "Chimp
RL Submit
CCC -1- FU
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SEQUENCE
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16-OCT-2001 (Rel. 40, Created)

16-OCT-2001 (Rel. 40, Last sequence update)

16-OCT-2001 (Rel. 40, Last annotation update)

Melanocyte stimulating hormone receptor (MSH-
                                                                                                                       Pan troglodytes (Chimpanzee).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-16M / ATCC 23456 / Biotype 1;
MEDLINE-20020109; PubMed-11756688;
DelVecchio V.G., Kapatral V., Redkar R.J., Patra G., Mujer C., Lo:
Ivanova N., Anderson I., Bhattacharyya A., Lykidis A., Reznik G.,
Jablonski L., Larsen N., D'Souza M., Bernal A., Mazur M., Goltsmar
Selkov E., Elzer P.H., Hagius S., O'Callaghan D., Letesson J.-J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bacteria; Proteobacteria;
Brucellaceae; Brucella.
MCBI_TaxID=29459;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hypothetical protein BMEII0304.
 "Chimpanzee melanocortin 1 sequence.";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ
-i- FUNCTION: RECEPTOR FOR MSH (ALPHA, BETA AN
                                         Flanagan N., Todd
Birch-Machin M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "The genome sequence of the facultative intracellular pathogen Brucella melitensis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Brucella melitensis
                                                                     SEQUENCE FROM N.A.

Rees J.L., Harding R.M., Healy E.,
                                                                                                             NCBI_TaxID=9598;
                                                                                                                                                                                receptor) (Melanocortin-1 receptor) (MC1-R).
                                                                                                                                                                                                                                                                  MSHR_PANTR
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                                                                                                                                                                                                                                                                                                                                                                54 ALLVPLAL 61
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8; Conservative
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24815 MW;
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POTENTIAL.
72 POTENTIAL.
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146 POTENTIAL.
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ON: Integral membrane pro
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Pred. No
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182C0244743B17FA CRC64;
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tthews J.N.,
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  BETA AND GAMMA) AND ACTH.
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                                                      .J., Ray A.J.,
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                                                                                                                                         Euteleostomi;
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SEQUENCE FROM N.A.

STRAIN=JAL-1 / DSM 2661 / ATCC 43067;

STRAIN=JAL-1 / DSM 2661 / ATCC 43067;

MEDLINE=96337999; PubMed=8688087;

Bult C.J., White O., Olsen G.J., Zhou L., Fleischmann R.D.,

Sutton G.G., Blake J.A., FitzGerald L.M., Clayton R.A., Gocayne J.D.,

Sutton G.G., Blake J.A., FitzGerald L.M., Clayton R.D., Reich C.I.,

Kerlavage A.R., Dougherty B.A., Tomb J.-F., Adams M.D., Reich C.I.,

Overbeek R., Kirkness E.F., Weinstock K.G., Merrick J.M., Glodek A.,

Scott J.L., Geoghagen N.S.M., Weidman J.F., Fuhrmann J.L., Nguyen D.,

Utterback T.R., Kelley J.M., Peterson J.D., Sadow P.W., Hanna M.C.,

Overbeek R., Kelley J.M., Hurst M.A., Kaine B.P., Borodovsky M.,
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01-NOV-1997 (Rel. 35,
15-JUN-2002 (Rel. 41,
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DOMAIN 1
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PROSITE; PS00237; G_PROTEIN_RI
PROSITE; PS50262; G_PROTEIN_RI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPRO
Pfam; PF00001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AJ245705; CAB53398.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       entities requires a license agreement (See http://www.isb-sib.ch/announce.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                   Methanococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FDHB_METJA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADENYLATE CYCLASE (BY SIMILARITY).
SUBCELLULAR LOCATION: Integral membrane protein.
SIMILARITY: BELONGS TO FAMILY 1 OF G-PROTEIN COUPLED RECEPTORS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTIVITY OF THIS RECEPTOR IS MEDIATED BY G PROTEINS WHICH ACTIVATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RARRAIAA 144
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8; Conserv
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                                                                                                                                                                                                                                                                                                                         ; Methanococci; Methanococcales;
Methanocaldococcus.
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CYTOPLASMIC (POTENTIAL).
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2 (POTENTIAL)
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01-NOV-1991 (
01-FEB-1996 (
30-MAY-2000 (
                        *Kinloch R.A., Ruiz-Seller B., Wassarman P.M.;

*Genomic organization and polypeptide primary structure pellucida glycoprotein hxP3, the hamster sperm receptor. Dev. Biol. 142:414-421(1990).

1- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPO SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRI SPECIES-SPECIFICITY OF THE INSEMINATION.
                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1991 (Rel. 20, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
30-MAY-2000 (Rel. 39, Last annotation update)
Zona pellucida sperm-binding protein 3 precursor (7 glycoprotein ZP3) (Sperm receptor) (Zona pellucida
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                                                                                                                                                                                                                                                                                                                                                                                    glycoprotein
ZP3.
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                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                    Mesocricetus.
NCBI_TaxID=10036;
                                                                                                                                                                                                                                                                                                                                    Eukaryota;
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tannaschii.";
                                                                                                                                                                                 MEDLINE=91078540; PubMed=2257975;
                                                                                                                                                                                                                                                                                                                  Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                           Mesocricetus auratus
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                                                                                                                                                                                                                                                                                                                                                           (Golden hamster).
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           HIIM
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Venter J.C.;
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DOMAIN 45 306
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DOMAIN 208 257
CARBOHYD 146 146
CARBOHYD 302 302
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STRAIN-Rd / KW20 / ATCC 51907;

MEDLINE-95350630; PubMed-7542800;

Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick C. Kerlavage A.R., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D., Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M., Weldman J.F., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D. Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R. Fine L.D., Fritchman J.L., Fuhrmann J.L., Geoghagen N.S.M., Eneb C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restructed by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entitles requires a license agreement (See http://www.isb-sor send an email to license@isb-sib.ch).
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SIMILARITY: CONTAINS 1 ZP DOMAIN
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PMENTAL STAGE: GROWING
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MEDLINE-91296809; PubMed-1676842;
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                                                                                                                                                                                                                                                                        Homo sapiens (Human)
Eukaryota; Metazoa;
Mammalia; Eutheria;
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SMART; SM00382; AAA;
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InterPro; IPR001140; ABCtranprtrTM.
Pfam; PF00005; ABC_tran; 1.
Pfam; PF00664; ABC_membrane; 1.
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TIGR; HI1156;
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Science 269:496-512(1995)
    TISSUE-Brain;
                                                                   Proc.
                                                                                        but distinct
                                                                                                                                Groffen
                                                                                                                                                                                                                SEQUENCE FROM N.A.
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                       SEQUENCE FROM N.A.
                                                                 "Identification of a human gamma-glutamyl cleaving out distinct from, gamma-glutamyl transpeptidase."; oc. Natl. Acad. Sci. U.S.A. 88:6303-6307(1991).
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SUBCELLULAR LOCATION: Integral membrane
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8; Conser
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Primates;
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A9ACD8B9B294B1B3 CRC64;
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or (EC.2.3.2.2) (Gamma-
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RP SEQUEN

Eukaryota; Metazoa; Mammalia; Eutheria;

Chordata; Primates;

Craniata; Vertebrata; Eutele Platyrrhini; Callitrichidae;

Euteleostomi;

NCBI_TaxID=9491;

Saguinus imperator (Tamarin)

SEQUENCE FROM N.A.

01-MAR-1992 (Rel. 21, Created)
01-MAR-1992 (Rel. 21, Last sequence up
15-JUN-2002 (Rel. 41, Last annotation
Sperm protamine P1 (Cysteine-rich prot

ce update) ition update) protamine).

HSP1_SAGIM P24714;

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between
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Transferase; Acyltransferase; Zymogen; Glycoprotein; Transmembrane;
Glutathione biosynthesis; Signal-anchor.
CHAIN 1 387 GAMMA-GLUTAMYLTRANSPEPTIDASE 5 HEAVY
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MEROPS; T03.002;
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PROSITE; PS00462; G_GLU_TRANSI
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PF01019; G_glu_transpept; 1.
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W -> R (I
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GAMMA-GLUTAMYLTRANSPEPTIDASE 5 LIGHT
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SIGNAL-ANCHOR (TYPE-II
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Best Local
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01-FEB-1994 (Rel. 28
15-JUN-2002 (Rel. 41
Sperm protamine Pl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSP1_DIDMA
P35305;
SPECIES-M.domestica;
MEDLINE-95215351; PubMed-7700877;
Retief J.D., Krajewski C., Westerman M., Winkfein R.J.,
"Molecular phylogeny and evolution of marsupial protaminer of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control o
                                                                                                                                                                                                                                                                                                                                         SPECIES-D.marsupialis;
MEDLINE-93345500; PubMed-8344286;
Winkfein R.J., Nishikawa S., Connor W., Dixon G.H.;
"Characterization of a marsupial sperm protamine gene and transcripts from the North American opossum (Didelphis marsupialis).";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Nucleic Acids Res. 19:5786-5786(1991)

-1- EUNCTION: PROTAMINES SUBSTITUTE FOR HISTONES IN THE CHROMATIN OF
SPERM DURING THE HAPLOID PHASE OF SPERMATOGENESIS. THEY COMPACT
SPERM DNA INTO A HIGHLY CONDENSED, STABLE AND INACTIVE COMPLEX.
-1- SUBUNIT: CROSS-LINKED BY INTERCHAIN DISULFIDE BONDS AROUND THE
DNA-HELIX (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Didelphis marsupialis virginiana (North American opossum),
Monodelphis domestica (Short-tailed grey opossum).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleo
Mammaalia; Metatheria; Didelphimorphia; Didelphidae; Didelph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF00260; protamine_P1; 1.
PROSITE; PS00048; PROTAMINE_P1; 1.
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-1- SIMILARITY: BELONGS TO THE PROTAMINE P1 FAMILY.
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"Protamine 1 gene
                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR000221; Protamine_P1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA condensation; Nuclear protein.
                                                                                                                                                                                                                                                                                                               Biochem.
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28,
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protamine Pl
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Didelphis.
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Best Local
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046202;
16-0CT-2001
                 MEDLINE-20196006; PubMed-10731132;
Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D., Adams M.D., Celniker S.E., Holt R.W., Hoskins R.A., Galle R.F., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F., George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N., Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X., Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D., Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G., Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G., Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D., Ballew R.M., Basu A., Baxendale J., Baytattaroglu L., Beasley E.M., Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S., Borkwa D., Botchan M.R., Bouck J., Brokstein P., Brottier P., Benofas I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Mandibulata; Pancrustacea; Hexapoda;
Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
NCBI_TaxID=7227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Wolfner M.F., Harada H.A., Bertram M.J., Stelick T.J., Kalb J.M., Lung Y.O., Neubaum D.M., Park M., Tram U.K., "New genes for male accessory gland proteins in Drosopl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A., FUNCTION, AND TISSUE SPECIFICITY STRAIN-Canton-S; TISSUE-Male accessory gland; MEDLINE-98135120; PubMed-9474779;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Accessory gland protein Acp62F ACP62F OR CG1262.
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INIT_MET 0 0 BY SIMILARITY.

SEQUENCE 57 AA; 7810 MW; 283715B280214E52
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Pfam; PF00260; protamine_P1; 1.
PROSITE; PS00048; PROTAMINE_P1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; L17007; AAA02812.1;
EMBL; X74044; CAA52193.1;
EMBL; L35448; AAA74612.1;
EMBL; L354045; S34045.
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                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 melanogaster.";
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16-OCT-2001 (Rel. 40,
16-OCT-2001 (Rel. 40,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chromosomal
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RA Durbin K.J. Evangelista C.C. Ferraz C., Ferriera S., Fleischmann W., RA Posler C., Gabrielian A.E., Garg N.S., Gelbart W.M., Glasser K., RA Posler C., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M., RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M., RA Glodek A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M., RA Harris N.L. Harvey D., Heiman T.J., Hernandez J.R., Houck J., RA Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C., Martel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z., Liang Y., Lin X., Mallali M., Liu X., Mattel B., McIntosh T.C., McLeod M.P., McPherson D., RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X., RA Lasko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X., RA McIkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A., RA McIkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A., RA McIkulov G., Milshina N.V., Nobarry C., Morris J., Moshrefi A., RA Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G., RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H., RA Shue B.C., Siden-Klamos I., Simpson M., Skupski M.P., Smith T., RA Shue B.C., Siden-Klamos I., Simpson M., Skupski M.P., Smith T., RA Shue E., Spradling A.C., Stapleton M., Strong R., Sun E., RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J., RA Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J., RA Wang S.-Y., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L., RA Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu X., Smith H.O., RA Glbbs R.A., Myers E.W., Rubh G.M., Venter F., Flac Q., Zheng L., RN Glbs R.A., Myers E.W., Rubh G.M., Venter J., Thu X., Smith H.O., RN Glbs R.A. Myers E.W., Rubh G.M., Venter F., Flac Q., Zheng L., RN [3]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entre the European Bioinformatics Institute. There are no restricted the companion of the companion of the control of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion of the companion
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-II- FUNCTION: RESPONSIBLE FOR PHYSIOLOGICAL AND BEHAVIORAL CHANGES MATED FEMALE FLIES. MAY CONTRIBUTE TO THE TOXICITY OF SEMINAL FLUID AND THE DECREASED LIFE-SPAN OF MATED FEMALES. MAY ALSO AFFECT NEUROMUSCULAR EVENTS AFTER MATING CONCERNING SPERM STOR
                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                          EMBL;
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Drosophila.";
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SUBCELLULAR LOCATION:
                                                                                                                                                                                                                                                                                         FBgn0020509; Acp62F
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                                                                                                                                                                             Signal.
                                                                                                                                                                                                                                                    IPR002919;
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on genetics of male
                                                                         12570 MW;
2.5%;
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                                                           POTENTIAL.
ACCESSORY GLAND PROTEIN ACP62F
4326AA6F6C32291D CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  There are no rest
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S., Dunkov B.C., Dunn P.,
riera S., Fleischmann W.,
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Smith H.O.,
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Query Match

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21-JUL-1986 (Rel. 0
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Insertion element I
                                                           This SWISS-PROT entry is copyright. It is produced between the Swiss Institute of Bioinformatics and the European Bioinformatics Institute. There are nuse by non-profit institutions as long as its comodified and this statement is not removed. Usage entities requires a license agreement (See http://worsend an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Yamamoto Y., Inokuchi H., Miki T., Ichihara S., Mizuno T., Makino W. Mizobuchi W.
                                                                                                                                                                                                                                                                                                        Motomura K., Nakade S., Nakamura Y., Nashimoto H., Nishio Y., Oshima T., Saito N., Sampei G., Seki Y., Sivasundaram S., Tagami H., Takeda J., Takemoto K., Takeuchi Y., Wada C., Yamamoto Y., Horiuchi T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "The nucleotide sequence and protein-coding capability of the transposable element IS5.";
Gene 14:155-163(1981).
                                                                                                                                                                                                                                          corresponding to the 28.0 DNA Res. 3:363-377(1996).
                                                                                                                                                                                                                                                                                                                                                                                            Kitagawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "The nucleotide sequence of IS5 Gene 14:165-174(1981).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=97251357; PubMed=9097039;
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Davis K., Federspiel
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                                                                                                                                                                                                                                                                                                                                                                                          H., Baba T., Fujita K., Hayashi K., Inada T., Is
T., Kasai H., Kashimoto K., Kimura S., Kitakawa
gawa M., Makino K., Miki T., Mizobuchi K., Mori F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACLGLLL 17
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-; NOT_ANNOTATED_CDS AAB08680.1; -.
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N., Hyman R., Kalman S., F
Lin D., Namath A., Oefner
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Hatada E., E
, Nakata A., Y
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RESULT 17
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EMBL; D90771;
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EMBL; D90831;
EMBL; D90847;
EMBL; D90848;
EMBL; D90848;
PIR; A04466;
  DISULFID
DISULFID
CARBOHYD
                                                                                                                   InterPro; IPR003634; Interleukin_13.
InterPro; IPR001325; Interleukin_4_13.
Pfam; PF03487; Interleukin_13; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.

MEDILINE-8993958; PubMed=2521353;

Brown K.D., Zurawski S.M., Mosmann T.R., Zurawski G.;

"A family of small inducible proteins secreted by leukocytes members of a new superfamily that includes leukocyte and fibroblast-derived inflammatory agents, growth factors, and indicators of various activation processes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; I
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae;
                                                                                                                                                                                                                        use by non-profit institutions as long as its cont modified and this statement is not removed. Usage by entitles requires a license agreement (See http://www.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                               the
                                                                                                                                                                                                                                                                                                         This
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01-FEB-1991 (Rel. 17, Last sequence update)
15-JUL-1998 (Rel. 36, Last annotation update)
Interleukin-13 precursor (IL-13) (T-cell activation IL13 OR IL-13.
                                           CHAIN
                                                                                           SMART; SM00190;
                                                                                                        ProDom;
                                                                                                                                                                                     EMBL; M23504; AAA40149.1; PIR; E30552; E30552.
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P20109;
                                                                   Cytokine;
                                                                            PROSITE; PS00838; INTERLEUKIN_4_13;
                                                                                                                                                            HSSP; P35225; 3ITR. MGD; MGI:96541; Ill
                                                                                                                                                                                                                                                                                              between
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SEQUENCE 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID-10090;
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                                                                                                                                                                                                                                                                                                                                                           Immunol. 142:679-687(1989).

- FUNCTION: CYTOKINE. INHIBITS INFLAMMATORY CYTOKINE PRODUCTION.

SYNERGIZES WITH 112 IN REGULATING INTERFERON-GAMMA SYNTHESIS.

MAY BE CRITICAL IN REGULATING INFLAMMATORY AND IMMUNE RESPONSE

(BY SIMILARITY).
                                                                                                                                                                                                                                                                          s SWISS-PROT entry is copyright. It is produced through a collab ween the Swiss Institute of Bioinformatics and the EMBL outst European Bioinformatics Institute. There are no restrictions
                                                                                                                                                                                                                                                                                                                            SUBCELLULAR LOCATION: Secreted.
SIMILARITY: BELONGS TO THE IL-4 / IL-13 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            L; D83536; -; NOT_ANNOTATED_CDS.
L; D90771; BAA14925.1; -.
L; D90772; BAA14935.1; -.
L; D90831; BAA15715.1; -.
L; D90841; BAA15872.1; -.
L; D90848; BAA15958.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DGGAVRQ
                                                                                                      PD015987; Interleukin_13; 1.
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7; Conser
                                                                 Glycoprotein;
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118 AA; 12270 MW; 348014FAC765058E CRC64;
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                                                                                           IL4_13;
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 INTERLEUKIN-13.
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; Murinae; Mus
(POTENTIAL).
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Best Local
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01-NOV-1995
15-JUL-1998
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                                                                                                                      CHAIN
                                                                                                                                                                                       EMBL; L26913; AAA16478.1; -.
HSSP; P35225; 3ITR.
InterPro; IPR003634; Interleukin_13.
InterPro; IPR001325; Interleukin_4_13.
Pfam; PF03487; Interleukin_13; 1:
                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                  Lakkis F.G., Cruet E.N.;

"Cloning of rat interleukin-13 (IL-13) cDNA and analysis of IL-13
gene expression in experimental glomerulonephritis.";
Biochem. Blophys. Res. Commun. 197:612-618(1993).

-I- FUNCTION: CYTOKINE. INHIBITS INFLAMMATORY CYTOKINE PRODUCTION.
SYNERGIZES WITH IL2 IN REGULATING INTERFERON-GAMMA SYNTHESIS.

MAY BE CRITICAL IN REGULATING INFLAMMATORY AND IMMUNE RESPONSES
(BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                            SEQUENCE
                                                                                                                                   SIGNAL
                                                                                                                                             Cytokine; Glycoprotein;
                                                                                                                                                        PROSITE;
                                                                                                                                                                   SMART; SM00190;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-Sprague-Dawley; TISSUE-Kidney MEDLINE-94092138; PubMed-7916615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IL13 OR IL-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Interleukin-13 precursor (IL-13)
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            Local
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 Similarity 7; Conserv
                                                                                                                                                                             F03487; Interleukin_13; PD015987; Interleukin_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity 7; Conserv
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                                           121
131 AA;
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  Conservative
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Interleukin_13; 1.
                                                                                                                                                       INTERLEUKIN_4_13;
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N-LINKED (GLCNAC...
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Score 7; DB 1; Pred. No. 29; 0; Mismatches
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N-LINKED (GLCNAC. . .) (POTENTIAL).
; 954F93F105713FED CRC64;
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Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
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29;
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16-OCT-2001
16-OCT-2001
                                                                                                                                                                                                                                                                                                                                 TNFC_PIG
Q9TSV8;
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057781;
                                                                                                                                                           15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
Lymphotoxin-beta (LT-beta) (Tunor necrosis factor C) (TNF-C)
necrosis factor ligand superfamily member 3) (Fragment).
LTB OR TNFSE3 OR TNFC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM SEQUENCE
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Kawarabayasi Y., Sawada M., Horikawa H., Haikawa Y., Hino Y.,
Yamamoto S., Sekine M., Baba S.-I., Kosugi H., Hosoyama A., Nagai Y.,
Yamamoto S., Ogura K., Otsuka R., Nakazawa H., Takamiya M., Ohfuku Y.,
Sakai M., Ogura K., Otsuka R., Nakazawa H., Takamiya M., Ohfuku Y.,
Funahashi T., Tanaka T., Kudoh Y., Yamazaki J., Kushida N., Oguchi A.
Aoki K.-I., Yoshizawa T., Nakamura Y., Robb F.T., Horikoshi K.,
Masuchi Y., Shizuya H., Kikuchi H.;
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                                                                             Sus scrofa (Pig).
Eukaryota; Metazoa;
Mammalia; Eutheria;
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EMBL; AP000007; BAA31940.1; JOINED.
EMBL; AP000007; BAA31943.1; JOINED.
EMBL; AP000001; BAA31943.1; JOINED.
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SEQUENCE FROM N.A
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thermophilic archaebacterium, Pyrococcus horikoshii OT3.";
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41 61
67 87
147 AA; 15
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(Rel. 40, Last sequence update)
(Rel. 40, Last annotation update)
protein PH2001.
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                                                                                Chordata; Crania:
Cetartiodactyla;
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                                                                                Craniata; Vertebrata;
actyla; Suina; Suidae;
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Mismatches
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Q01881;
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SEQUENCE
Oryza sativa (Rice).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Lillopsida; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                            01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
01-JUN-1994 (Rel. 29, Last annotation update)
Seed allergenic protein RA5 precursor.
                                                                                                                                                                                                                                                                                                                                                   ORYSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PROSITE; PS00251; TNF_1; 1.
PROSITE; PS50049; TNF_2; 1.
Cytokine; Cytotoxin; Glycoprotein.
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                                                                                  MEDLINE-93144699; PubMed-7678765;
Adachi T., Izumi H., Yamada T., T
Nakamura R., Matsuda T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AJZ51914; CAB63851.1; ... InterPro; IPRO03636; TNF_abc. InterPro; IPRO0478; TNE_family. Pfam; Pr00229; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   use by non-profit instructions -- -- Usage by and for commercial modified and this statement is not removed. Usage by and for commercial modified and this statement is not removed. Usage by and for commercial modified and this statement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-Large white; TISSUE-Fibroblast; MEDLINE-21108615; PubMed-11169259;
                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SMART; SM00207;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          containing all non-classical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Renard C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chardon P., Rogel-Gaillard C.,
                                                                                                                                                                        NCBI_TaxID=4530;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ProDom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence of the swine major histocompatibility
                                                                                                                                                                                                                                                                                                                                                                                                                                     194 GLYYLYC 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity nes 7; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                          37 GLYYLYC 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SURFACE.

SUBUNIT: Heterotrimer of either two LTB and one LTA subunits or (less prevalent) two LTA and one LTB subunits.

SUBCELLULAR LOCATION: Type II membrane protein (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FUNCTION: Cytokine that binds to LTBR/TNFRSF3. Marole in immune response regulation. Provides the for the attachment of the heterotrimeric complex
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY:
                                                                                                                                                                                                                                                                                                                                    ORYSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PD002012; TNF_abc;
SM00207; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         128
150 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                     STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         128 I
16423 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          class I
                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. 32; Mismatches
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                                                                                                    Tanaka
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         genes.";
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                TRYPSIN/ALPHA-AMYLASE INHIBITOR
                                                                                                    ×.
                                                          seed allergenic pro
inhibitor family.";
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                                                                                                    Takeuchi S.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Duprat S., Vaiman
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        P11457;
01-OCT-1989 (Rel. 12, Created)
01-OCT-1989 (Rel. 12, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Histone-like protein HLP-1 precursor (DNA-binding
HLPA OR SKP OR OMPH OR B0178 OR Z0190 OR ECS0180.
                        Takemoto K., Mori H., Murayama N., Kataoka K., Yamamoto Y., Inokuchi H., Miki T., Hatada E., Mizuno T., Makino K., Nakata A., Yura T., Sampe "Systematic sequencing of the Escherichia coll 4.0 - 6.0 min (189,987 - 281,416bp) region.";
                                                                                                                                                                                   Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F., Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
                                                                                                                                                                                                                                                                                                           "Cloning and sequencing of Escherichia coli.";
                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.,
MEDLINE-88329735; P
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InterPro; IPR003612; AAI.
InterPro; IPR001768; Try/amyl_inhbtr.
Pfam; PF00234; tryp_alpha_amyl; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entities requires a license agreement (See http://www.isb-sor send an email to license@isb-sib.ch).
               Submitted
                                                                                                   STRAIN-K12
                                                                                                                                                                                                                                  STRAIN=K12 / MG1655;
MEDLINE=97426617; PubMed=9278503;
                                                                                                                                                                                                                                                                                                                                        Holck A., Kleppe K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                           Escherichia coli, and Escherichia coli 0157:H7.
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                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                               Science
                                                                                                                                                                            Mau B.,
                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=562,
                                                                                                                                                                                                                                                                                                                                                                                                                  Escherichia
                                                                                                                                                                                                                                                                                                                                                                                                                              Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HLPA_ECOLI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11 LLLAVVS 17
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                                                                                                                                              complete genome sequence nce 277:1453-1474(1997).
                                                                                                                                                                                                                                                                                             67:117-124(1988).
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; SM00499; AAI; ;
TE; PS00426; CER
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                                                                                                                                                                          Shao Y.;
                (FEB-1996)
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157 i
                                                                                    W3110;
Mori H.,
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                to the EMBL/GenBank/DDBJ
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                                                                                                                                                           Escherichia coli K-12.";
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                                                      a K., Yano M., Itoh T.,
E., Fukuda R., Ichihara
Sampei G., Mizobuchi K.;
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               databases
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                                        genome: analysis
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                                                                     Ichihara S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein)
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Perna N.T., Plunkett G. III, Burland V., Mau B., Glasner J.D., Rose D.J., Mayhew G.F., Evans P.S., Gregor J., Kirkpatrick H.A., Posfai G., Hackett J., Kilnk S., Boutin A., Shao Y., Miller L., Grotbeck E.J., Davis N.W., Lim A., Dimalanta E.T., Potamousis K. Apodaca J., Anantharaman T.S., Lin J., Yen G., Schwartz D.C., Welch B. a Blatter P. B.
                                                                                                                                  This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Exthe European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entitles requires a license agreement (See http://www.isb-sor send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hayashi T., Makino K., Ohnishi M., Kurokawa K., Ishii K., Yokoyama Han C.-G., Ohtsubo E., Nakayama K., Murata T., Tanaka M., Tobe T., Iida T., Takami H., Honda T., Sasakawa C., Ogasawara N., Yasunaga T. Kuhara S., Shiba T., Hattori M., Shinagawa H.; "Complete genome sequence of enterohemorrhagic Escherichia coli Ol57:H7 and genomic comparison with a laboratory strain K-12."; DNA Res. 8:11-22(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=K12 / EMG2;
MEDLINE=97443975; PubMed=9298646;
Link A.J., Robison K., Church G.M.;
Link A.J., Robison K., Church G.M.;
TComparing the predicted and observed process of the genome of Escherichia coli K-12;
Electrophoresis 18:1259-1313(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Dicker I.B., Seetharam S.R.; "Cloning and nucleotide sequence allele from Escherichia coli.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nature
[6]
                                                                                                       EMBL;
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                                                                                                                                                                                                                                                                                                                                     constituent?"
                                                                                                                                                                                                                                                                                                                                                  MEDLINE=90201355; PubMed=2318304;
Hirvas L., Coleman J., Koski P.,
"Bacterial 'histone-like protein
                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY TO S. TYPHIMURIUM OMPH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 21-32.
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MEDLINE-21156231; PubMed-11258796;
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Welch R.A., Blattner F.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN-0157:H7 / EDL933 / ATCC 700927;
MEDLINE-21074935; PubMed-11206551;
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Lashkari D.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacteriol.
AE000127; AAC73289.1; -...
D83536; BAA77853.1; -...
U70214; AAB08607.1; -...
AE005194; AAG54480.1; -...
AE002550; BAB33603.1; -...
X54797; CAA88567.1; -...
X75465; CAA853207.1; -...
                                                                                                                                                                                                                                                       THE OUTER MEMBRANE.
SIMILARITY: BELONGS TO THE OMPH/HLPA FAMILY.
                                                                                                                                                                                                                                                                                                        SUBUNIT:
                                                                                                                                                                                                                                                                                        SUBCELLULAR LOCATION: EITHER
                                                                                                                                                                                                                                                                                                                          Lett.
                                                                                                       M21118; AAA24630.1; -.
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Federspiel N., Hyman R., Kalman S., Komp C.
D., Lew H., Lin D., Namath A., Oefner P., Ro
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haram S.R.;
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MBL outstation -
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EMBL; EMBL; EMBL; EMBL; EMBL;

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RESULT 23
VILM4_CAMEL
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PIR; S44789; S44789.
WormPep; D2007.4; CE00129.
Hypothetical protein.
SEQUENCE 170 AA; 19396 M
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P34378;
O1-FEB-1994
O1-FEB-1994
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ECOGene; EG10455; hlpA.

ECOGene; EG10455; hlpA.

DNA-binding; Outer membrane; Signal; Complete proteome.

SIGNAL 1 20

HISTONE-LIKE PROTEIN HLP-1
                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bloinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wilson R., Ainscough R., Anderson K., Baynes C., Berks M., Bonfield J., Burton J., Connell M., Copsey T., Cooper J., Coulson A Craxton M., Dear S., Du Z., Durbin R., Favello A., Fraser A., Fulton L., Gardner A., Green P., Hawkins T., Hillier L., Jier M., Johnston L., Jones M., Kershaw J., Kirsten J., Laisster N., Jahreille P., Lightning J., Lloyd C., Mortimore B., O'Callaghan M., Latreille P., Lightning J., Lloyd C., Mortimore B., O'Callaghan M., Parsons J., Percy C., Rifken L., Roopra A., Saunders D., Shownkeen Sims M., Smaldon N., Smith A., Smith M., Sonnhammer E., Staden R., Sulston J., Thierry-Mieg J., Thomas K., Vaudin M., Vaughan K., Waterston R., Watson A., Weinstock L., Wilkinson-Sproat J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN-Bristol N2;
MEDLINE-94150718; PubMed-7906398;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis.
                                                                                                                                                                                                                                                                                                                                                                               or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wohldman P.;
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                                                  221 VLALRCL 227
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S13728; S13728.
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VLALRCL 100
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(Rel. 28, Last sequence update)
(Rel. 41, Last annotation update)
1 protein D2007.4 in chromosome III.
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17688 MW;
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5. 36;
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LACB_CAPHI
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AC P02756
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"The amino acid sequence of the water buffalo beta-lactoglobulin.";
Milchwissenschaft 36:83-86(1981).
-I- FUNCTION: Primary component of whey, it binds retinol and is
probably involved in the transport of that molecule.
-I- SUBUNIT: UNDER PHYSIOLOGICAL CONDITIONS BETA-LACTOGLOBULIN EXISTS
AS AN EQUILIBRIUM MIXTURE OF MONOMERIC AND DIMERIC FORMS.
-I- SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                             CHAIN
                                                                                                                                                                                                                                                           Pfam; Provout, ---
PRINTS; PR00179; LIPOCALIN.

PROSITE; PS00213; LIPOCALIN; 1.

PROSITE; PS00213; LIPOCALIN; Transport; Lipocalin;
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 LACB_CAPHI
P02756;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bovidae; Bovinae; Bubalus.
NCBI_TaxID=89462;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bubalus bubalis (Domestic water buffalo).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
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21-JUL-1986 (Rel. 01, Created)
15-JUN-2002 (Rel. 41, Last sequence up
15-JUN-2002 (Rel. 41, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                     use by non-profit institutions as long as its content modified and this statement is not removed. Usage by ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
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MEDLINE=99304500; PubMed=10376212;
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                                                                                                                                                                                          SEQUENCE
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                                                                                                                                                                                                                                                                                                              Pfam; PF00061; lipocalin;
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180 AA;
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CHAIN
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SEQUENCE
                                                                             PROSITE; PSO
Milk; Whey;
                                                                                                                                                             PIR; A03220; LGGT.
PIR; S14507; S14507.
PIR; S42800; S42800.
                                                                                                                                                                                                                                                                                                                                                                                                            Preaux G., Braunitzer G., Schrank B., Stangl A.;
"The amino acid sequence of goat beta-lactoglobulin.";
Hoppe-Seyler's Z. Physiol. Chem. 360:1595-1604(1979).
-I- FUNCTION: Primary component of whey, it binds retinol and i probably involved in the transport of that molecule.
-I- SUBJUIT: UNDER PHYSIOLOGICAL CONDITIONS BETA-LACTOGLOBULIN AS AN EQUILIBRIUM MIXTURE OF MONOMERIC AND DIMERIC FORMS.
-I- SUBCELLULAR LOCATION: Secreted.
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01-MAY-1992
15-JUN-2002
                                                                 SIGNAL
                                                                                          PRINTS; PR00179; LIPOCALIN PROSITE; PS00213; LIPOCALI
                                                                                                                                                                                                     EMBL; X58471; CAA41385.1; --
EMBL; Z19569; CAA79623.1; --
EMBL; Z19570; CAA79624.1; --
EMBL; Z33881; CAA83946.1; --
                                                                                                                         InterPro; IPR002345; Lipocalin.
InterPro; IPR000566; Lipocln_cytFABP
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                                                                                                                                                                                                                                                                                         use by non-profit institutions as long modified and this statement is not removed.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-Ssp. aegagrus; TISSUE-Mammary MEDLINE-94042559; PubMed-8226387; Folch J.M., Coll A., Sanchez A.;
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Kim J., Kim A., K
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Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
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an email to license@isb-sib.ch).
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(JAN-1993)
                                                                            Retinol-binding;
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lobulin precursor (Beta-LG).
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                                                  BETA-LACTOGLOBULIN
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Matches 7
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Furet J.-
beta-lactoglobulin
Biol. Chem. Hoppe-:
                                                                          SPECIES-Sheep;
MEDLINE-89374823;
                                                                                                                                                        Preaux G., Braunitzer G., Kolde H.-J.; "Primary structure of ovine beta-lactoglobulin."; Arch. Int. Physiol. Biochim. 88:B45-B46(1980).
                                                                                                                                                                                                                    SPECIES=Sheep;
MEDLINE=80219294; PubMed=6155855;
                                                                                                                                                                                                                                             SEQUENCE OF 19-180 (BLG SPECIES-Sheep;
                                                                                                                                                                                                                                                                                                                            and
                                                                                                                                                                                                                                                                                                                                           MEDLINE=91007276; PubMed=1976573; Ali S., McClenaghan M., Simons J. "Characterisation of the alleles
                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM
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MEDLIND-88172489; PubMed-3351935;
Ali S., Clark A.J.;
Ali S., Clark A.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Beta-lactoglobulin 1/B, 2/A, and 3/C provis aries (Sheep), and Ovis orientalis musimon (Moufion). Eukaryota; Metazoa; Chordata; Craniata; Mammalla; Eutheria; Cetartiodactyla; Run Bovidae; Caprinae; Ovis. NCBI_TaxID-9940, 9938;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P02757;
21-JUL-1986 (Rel. 01, Created)
10-AUG-1988 (Rel. 08, Last sequence up
15-DEC-1998 (Rel. 37, Last annotation
                                     Erhardt G., Godovac-Zimmermann J., Conti A., "Isolation and complete primary sequence of
                                                                                                                      SEQUENCE OF 19-180 (BLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-89057492;
Harris S., Ali S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SPECIES-S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Ovine beta-lactoglobulin messenger RNA: levels during functional differentiation biochimie 68:1097-1107(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SPECIES-Sheep;
MEDLINE-87049827;
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Biol. 199:41
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                                                                               PubMed=2775495;
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Ruminantia; Pe
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38;
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                                     ovine wild-type
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EMBL; X07006; CAA30059.1,
EMBL; X07007; CAA30059.1,
EMBL; X07008; CAA30059.1,
EMBL; X07009; CAA30059.1,
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EMBL; M32236; AAA31510.1,
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PIR; A03221
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SPECIES-O.o.musinon;

MEDLINE-88106996; PubMed-3426802;

Godovac-Zimmermann J., Conti A., Napolitano L.;

"The complete amino-acid sequence of dimeric beta-lactog mouflon (Ovis ammon musimon) milk.";

Biol. Chem. Hoppe-Seyler 568:1313-1319(1987).

-I- FUNCTION: LACTOGLOBULIN IS THE PRIMARY COMPONENT OF BINDS RETINOL AND IS PROBABLY INVOLVED IN THE TRANSP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   THAT MOLECULE.

-I- SUBUNIT: UNDER PHYSIOLOGICAL CONDITIONS BETA-LACTOGLOBULIN EXISTS
-I- SI AN EQUILLBRIUM MIXTURE OF MONOMERIC AND DIMERIC FORMS.
-I- MISCELLANEOUS: ALTERNATE DISULFIDE BONDS OCCUR IN EQUAL AMOUNTS.
-I- SIMILARITY: BELONGS TO THE LIPOCALIN FAMILY.
                                                                                                                                                           SEQUENCE
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PROSITE; PS00213; LIPOCALIN; 1.
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8 LGLALAC 14
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S00132; S00132.
A30011; A30011.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      X07004; CAA30059.1; ALT_SEQ
X07005; CAA30059.1; JOINED.
X07006; CAA30059.1; JOINED.
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X12817; CAA31305.1;
                                                                                                                                                                                                                                                         Whey;
                                                                                                           Similarity
7; Conser
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                                                                                                                                                                                                                                                                                                     IPR000345; Lipocalin. IPR000566; Lipocln_cytFABP.
                                                                                                                                                                                                                                                                                                                                          6; A25136.
3; JQ0748.
); JQ0749.
; S02136.
; S04955.
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                                                                                                                                                                                                                                                                                              lipocalin;
 STANDARD;
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178
137
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                                                                                                                                                           19921 MW;
                                                                                                                      2.5%;
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JOINED.
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JOINED.
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H -> Y (IN LACTOGLOBULIN R -> Q (IN LACTOGLOBULIN R -> Q ABC82E89E757333 CRC64;
                                                                                                                                                                                                                                                         Transport; Signal; Lipocalin.
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 PRT;
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 230 AA.
                                                                                                                      DB 1;
o. 38;
                                                                                                                                 Length 180;
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3=C).
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                                                                                                          Gaps
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60 ALGLGLA

Matches

Similarity 7; Conser

Conservative

0

Mismatches

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Query Match
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    -I- FUNCTION: May be part of a membrane complex involved transport (By similarity).
    -I- SUBUNIT: Composed of at least six subunits; rnfA, rnf rnfD, rnfE and rnfG (By similarity).
    -I- SUBCELLULAR LOCATION: Integral membrane protein. Inne

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SPECIES-S.typhimurium; STRAIN-LT2 / SGSC1412 / ATCC 700720; MEDLINE-21334948; PubMed-11677609; McCLelland M., Sanderson K.E., Spieth J., Clifton S.W., Latreille P., Courtney L., Porwollik S., Ali J., Dante M., Du F., Hou S., Layman D., Leonard S., Nguyen C., Scott K., Holmes A., Grewal N., Mulvaney E., Ryan E., Sun H., Florea L., Miller W., Stoneking T., Nhan M., Waterston R., Wilson R.K.;
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15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Electron transport complex protein rnfE.
RNFE OR STM1454 OR STY1668.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Complete genome sequence of a multiple drug resistant Salmonella enterica serovar Typhi CT18.";
Nature 413:848-852(2001).
                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                  StyGene; SG?????; rnfE.
InterPro; IPR003667; Rnf_Nqr.
                                                                                                                                                                                                                                                                                                                                                       EMBL; AE008763; AAL20376.1; -. EMBL; AL627271; CAD01913.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SPECIES=S.typhi; STRAIN=CT18; MEDLINE=21534947; PubMed=11677608;
                                                                                                                                                                                                                                               Electron transport;
                                                                                                                                                                                                                                                                                                                                                                                                                                         or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacteria; Proteobacteria; gamma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Salmonella typhi
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nature 413:852-856(2001).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
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                                                                                 126
183
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                                                                                                                                                                                                                                               Transmembrane;
2.5%;
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  Score 7; I
                                                                                                           POTENTIAL.
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POTENTIAL.
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                                                                                                                                                                                                                                            Inner membrane; Complete proteome.
                            DB 1;
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                         Length 230;
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Length 231;

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STRAIN-0157:H7 / RIMD 0509952;
MEDLING-21156231; PubMed-11258796;
Hayashi T., Makiho K., Ohnishi M., Kurokawa K., Ishii K., Yokoyama K.
Han C.-G., Ohtsubo E., Nakayama K., Murata T., Tanaka M., Tobe T.,
Iida T., Takami H., Honda T., Sasakawa C., Ogasawara N., Yasunaga T.,
Kuhara S., Shiba T., Hattori M., Shinagawa H.;
"Complete genome sequence of enterohemorrhagic Escherichia coli
0157:H7 and genomic comparison with a laboratory strain K-12.";
DNA Res. 8:11-22(2001).

ONA Res. 8:11-22(2001).
                 TRANSMEM
DOMAIN
                                                                                DOMAIN
TRANSMEM
                                                                                                                                                                          EMBL; AE005386; AAG56621.1; -.
EMBL; AP002558; BAB35764.1; -.
InterPro; IPR003667; Rnf_Nqr.
Pfam; PF02508; Rnf-Nqr; 1.
                                                                                                                                                                                                                                                                                                                       This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ferna N.T., Plunkett G. III, Burland V., Mau B., Glasner J.D., Rose D.J., Mayhew G.F., Evans P.S., Gregor J., Kirkpatrick H.A., Posfai G., Hackett J., Klink S., Boutin A., Shao Y., Miller L., Grotbeck E.J., Davis N.W., Lim A., Dimalanta E.T., Potamousis K., Apodaca J., Anantharaman T.S., Lin J., Yen G., Schwartz D.C., Welch R.A., Blattner F.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence
15-JUN-2002 (Rel. 41, Last annotati
Electron transport complex protein
RNFE OR Z2642 OR ECS2341.
Escherichia coll 0157:H7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RNFE_EC
P58344;
                                                                                                                                                             Electron
                                                                                                                                                                                                                                       entities requires a license agreement (See http://www.isb-sib.or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                             the European Bioinformatics Institute. There are no rest use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Genome sequence of enterohaemorrhagic Escherichia coli 0157:H7."; Nature 409:529-533(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN-0157:H7 / EDL933 / ATCC 700927; MEDLINE-21074935; PubMed-11206551;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID-83334;
                                                                                                                                                                                                                                                                                                                                                                                   SUBUNIT: Composed of at least six subunits; rnfD, rnfE and rnfG (By similarity).
                                                                                                                                                                                                                                                                                                                                              SIMILARITY: BELONGS TO THE NORDE/RNFAE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                        SUBCELLULAR LOCATION:
                                                                                                                                                                                                                                                                                                    SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation
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24489
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                           POTENTIAL.
CYTOPLASMIC
POTENTIAL.
PERIPLASMIC
POTENTIAL.
                 CYTOPLASMIC
                                                                                            PERIPLASMIC
                                                                                                          POTENTIAL.
                                                                                                                      CYTOPLASMIC
                                                                                                                                                PERIPLASMIC
     D4A2CA2D292604C3 CRC64
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Matches 7
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P77179;
01-NOV-1997 (Rel. 3
01-NOV-1997 (Rel. 3
15-JUN-2002 (Rel. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-K12 / MG1655;
MEDLINE-97426617; Pub
Blattner F P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alba H., Baba T., Fujita K., Hayashi K., Inada T., Isono I Itoh T., Kasai H., Kashimoto K., Kimura S., Kitakawa M., Kitagawa M., Makino K., Miki T., Mizobuchi K., Mori H., Mc Motomura K., Nakade S., Nakamura Y., Nashimoto H., Nishio Oshima T., Saito N., Sanpei G., Seki Y., Sivasundaram S., Tagami H., Takeda J., Takemoto K., Takeuchi Y., Wada C., Yamamoto Y., Horiuchi T.;
EMBL; AE000258; AAC74704.1; EMBL; D90806; BAA15386.1; -. EMBL; D90807; BAA15393.1; -.
                                                                                                                                                                                              This
                                                                          entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                          use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entities requires a license agreement (See http://www.isb-
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                                                                                                                                                                                                                                                                                                                                                                         Proc. Natl. Acad.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY.
STRAIN-K12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "A 570-kb DNA sequence of the Escherichia corresponding to the 28.0-40.1 min region DNA Res. 3:363-377(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=97251357;
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Blattner F.R., Plunkett G. III, Bloch C.A., Perr
Riley M., Collado-Vides J., Glasner J.D., Rode (
Gregor J., Davis N.W., Kirkpatrick H.A., Goeden
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bacteria; Proteobacteria; gamma subdivision; Enterobacteriaceae;
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                                                                                                                                                  s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                         FUNCTION: May be part of a membrane complex involvaransport (By similarity).

SUBUNIT: Composed of at least six subunits; rnfA, rnfB, rnfE and rnfG (By similarity).
                                                                                                                                                                                                                                   SIMILARITY: BELONGS TO THE NQRDE/RNFAE FAMILY.
                                                                                                                                                                                                                                                                           SUBCELLULAR LOCATION:
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                                                                                                                                                                                                                                                       (Potential)
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nce 277:1453-1474(1997).
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41,
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ode C.K., Mayhew G.F.
eden M.A., Rose D.J.,
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P51837;

10.1-OCT-1996 (Rel. 34, Created)

T 01.-OCT-1996 (Rel. 34, Last sequence update)

T 01-OCT-2001 (Rel. 40, Last annotation update)

T 16-OCT-2001 (Rel. 40, Last annotation update)

Thonuclease III (EC 3.1.26.3) (RNase III).
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                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                   pfam; PF00035; dsrm; 1.
pfam; PF00635; Ribonuclease_3;
SMART; SM00358; DSRM; 1.
SMART; SM00535; RIBOC; 1.
                                                                                                                                                                                                                                                                                                                                                                                                Bacteria; Proteobacteria;
Coxiella group; Coxiella.
NCBI_TaxID=777;
SMART; SM00535; RIBOC; 1.
PROSITE; PS50137; DS_RBD; 1.
PROSITE; PS00517; RNASE_3_1;
PROSITE; PS50142; RNASE_3_2;
                                                                                                           EMBL; L27436; AAA69690.1;
                                                                                                                                  or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                           -1- FUNCTION: DIGESTS DOUBLE-STRANDED RNA. INVOLVED IN THE PROCESSING OF RIBOSOMAL RNA PRECURSORS AND OF SOME MENAS (BY SIMILARITY).
-1- CATALYTIC ACTIVITY: Endonucleolytic cleavage to 5'-
                                                                                                                                                                                                                                                                                                                 Zuber M., Hoover T.A., Powell B.S., Court D.L.;
"Analysis of the rnc locus of Coxiella burnetii.";
mol. Microbiol. 14:291-300(1994).
                                                                                                                                                                                                                                                                                                                                                     MEDLINE=95131751; PubMed=7830573;
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InterPro; IPR003667; Rr
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                                                                                                                                                                                                                                                      phosphomonoester.
SUBCELLULAR LOCATION: Cytoplasmic
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CYTOPLASMIC (POTENTIAL).
CFA37A2D292604C3 CRC64;
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or send a
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q8ZED4;
15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                              between the Swiss Institute of Bioinformat the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                Pfam; PF02508; Rnf-
Electron transport;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -i- FUNCTION: May be part of a membrane complex involved transport (By similarity).
-i- SUBUNIT: Composed of at least six subunits; rnfA, rnf rnfD, rnfE and rnfG (By similarity).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=CO-92 / Biovar Orientalis;
MEDLINE=21470413; PubMed=11586360;
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an email to license@isb-sib.ch).
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233 AA;
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    DB 1
o. 47;
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                    Length 233;
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ALGLGLA

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RESULT 32
RNFE_HAEIN
ID RNFE_HAE
AC Q57020
DT Q1-NOV
DT 15-JUN
DE ELEMOP
OC Haemop
OC Haemop
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RESULT 33
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Q57020; P96346;
01-NOV-1997 (Rel. 3
01-NOV-1997 (Rel. 3
15-JUN-2002 (Rel. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-9536630; PubMed-7542800;
Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.F., Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.M., McKenney K., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D., Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M., Scottana J.F., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D., Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R.C., Fine L.D., Fritchman J.L., Fuhrmann J.L., Geoghagen N.S.M., Gnehm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O., Venter J.C.;
                                                                                                                                                                                                                                                                                                                                      TRANSMEM
TRANSMEM
SEQUENCE
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TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Haemophilus influenzae.
Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; U32841; AAC23334.1; -. TIGR; HI1688; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Electron transport RNFE OR HI1688.
                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF02508; Rnf-Nqr;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Science 269:496-512(1995).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Whole-genome random sequencing and assembly of Haemophilus influenzae
                                                                                                                                                 62
                                                                                                                                                                                             60 ALGLGLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBUNIT: Composed of at least six subunits; rnfA, rnfD, rnfE and rnfG (By similarity).
SUBCELLULAR LOCATION: Integral membrane protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FUNCTION: May be part of transport (By similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY: BELONGS TO THE NORDE/RNFAE FAMILY.
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an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR003667; Rnf_Ngr.
                                                                                                                                                                                                                                           Conservative
                                                                                                                                                 83
                                                                                                                                                                                             66
                             STANDARD;
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35, Last sequence update)
41, Last annotation update)
t complex protein rnfE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Transmembrane; Inner membrane; Complete proteome
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Pred. No. 47;
0; Mismatches
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                           239
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DISULFID CARBOHYD
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Mus musculus (Mouse).
'--rvota; Metazoa; Chordata;
'--rota; Rodentia;
                                                                                                                                                                                                                                                                                                              EMBL; AF123385; AAF76453.1; -. EMBL; AB029155; BAA88559.1; -. EMBL; AF227533; AAF36722.1; -.
                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Mouse LIGHT; molecular genetics, ligand binding and ex
Submitted (JAN-2000) to the EMBL/GenBank/DDBJ databases
-!- FUNCTION: Cytokine that binds to TNFRSF3/LTBR. Bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tamada K., Shimozaki K., Chapoval A.I., Zhu G., Sica G., Files D., Boone T., Hsu H., Fu Y.-X., Nagata S., Ni J., Chen L.; Modulation of T-cell-mediated immunity in tumor and graft-versus-host disease models through the LIGHT co-stimulatory pathway.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-JUN-2002 (Rel. 41,
15-JUN-2002 (Rel. 41,
15-JUN-2002 (Rel. 41,
Tumor necrosis factor
                                                                                                                                                                      PROSITE; PS00251; TNF_1; FALSE_NEG PROSITE; PS50049; TNF_2; 1.
                                                                                                                                                                                                PRINTS; PR01234; TNECROSISFCT.
ProDom; PD002012; TNF_abc; 1.
SMART; SM00207; TNF; 1.
                                                                                                                                                                                                                                        InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
Pfam; PF00229; TNF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE-Lymphoma;
Force W.R., Todd P.K., Mikayama T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nat. Med. 6:283-289(2000).
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                                                                       TRANSMEM
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                                                                                                                                                                                                                                                                                    MGD; MGI:1355317;
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                                                                                                                                                                                                                                                                                                  ISSP; P01375; 4TSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Murine LIGHT, a homologue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        decoy receptor TNFRSF6B modulates its effects. Acti
and stimulates the proliferation of T cells.
SUBCELLULAR LOCATION: Type II membrane protein and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              proteolytic processing.
SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PTM: The soluble form derives from the membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             similarity).
                                                                                                                                                        Cytotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (JUN-1999)
  59
81
152
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                                                                                                                                                                                               ; TNF abc;
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                                                                                                                                             239
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                                                                                                                                          Transmembrane; Glycoprotein; Signal-anchor
TUMOR NECROSIS FACTOR LIGAND SUPER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6
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logue of human LIGHT which is a member
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Last annotation update)
ligand superfamily member
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                                    (POTENTIAL).

EXTRACELLULAR (POTENTIAL)
                                                                     CYTOPLASMIC (P
SIGNAL-ANCHOR
                             CLEAVAGE (POTENTIAL)
                                                                                                TUMOR NECROSIS FACTOR LIGAND MEMBER 14, SOLUBLE FORM.
                                                                                                                              MEMBER 14, MEMBRANE FORM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Sciurognathi; Muridae;
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 (GLCNAC.
                                                                                     (POTENTIAL)
                                                                      (TYPE
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.) (POTENTIAL).
                                                                       II MEMBRANE PROTEIN
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; Murinae; Mus
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RRESULT 34

RREE_PSEAE
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STRAIN-ATCC 15692 / PAO1;

MEDLINE-20437337; PubMed-10984043;

MEDLINE-20437337; PubMed-10984043;

Stover C.K., Pham X.-Q.T., Erwin A.L., Mizoguchi S.D., Warrener P.,

Hickey M.J., Brinkman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M.

Garber R.L., Goltry L., Tolentino E., Westbrock-Wadman S., Yuan Y.,

Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M.,

Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T.,

Reizer J., Saler M.H., Hancock R.E.W., Lory S., Olson M.V.;

"Complete genome sequence of Pseudomonas aeruginosa PAO1, an

opportunistic pathogen.";

Nature 406:99-964(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
SEQUENCE
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use by non-profit institutions as long as its content
modified and this statement is not removed. Usage by ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -i- FUNCTION: May be part of a membrane complex involved in electron transport (By similarity).
-i- SUBUNIT: Composed of at least six subunits; rnfA, rnfB, rnfC, rnfD, rnfE and rnfG (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-JUN-2002 (Rel. 41, Creat
15-JUN-2002 (Rel. 41, Last
15-JUN-2002 (Rel. 41, Last
Electron transport complex
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InterPro; IPR003667; Rnf_Nqr.
                                                                                                                                                                                                                                                                                                                                                                                      or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                           entities requires a license agreement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -1- SIMILARITY: BELONGS TO THE NORDE/RNFAE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -1- SUBCELLULAR LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=287;
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7; Conserv
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61 POTENTIAL.
91 POTENTIAL.
115 POTENTIAL.
150 POTENTIAL.
204 POTENTIAL.
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                                                               TNFC_HUMAN STANDARD; PRT; 244 AA. Q05643; P78370; Q99761; Q1-JUN-1994 (Rel. 29, Created) Q1-JUN-1994 (Rel. 29, Last sequence update) Q1-JUN-2002 (Rel. 41, Last annotation update) Lymphotoxin-beta (LT-beta) (Tumor necrosis factors)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Science 269:496-512(1995).

-i- FUNCTION: INVOLVED IN BIOSYNTHESIS OF A DEMOLYBDO COFACTOR (MOLYBDOPTERIN), NECESSARY FOR MOLYBDOENZYMES. PLAYS A ROLL ACTIVATION OF THE SMALL SUBUNIT OF THE MOLYBDOPTERIN CONVEFACTOR (MOAD) (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.F. Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.M. McKenney K., Sutton G., Fitzhugh M., Fields C.A., Gocayne J.D., Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M., Weidman J.F., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D., Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R.C. Fine L.D., Fritchman J.L., Fuhrmann J.L., Geoghagen N.S.M., Gnehm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O.,
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01-NOV-1995 (Rel. 32, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation updat
Molybdopterin biosynthesis protein moeB.
MOEB OR CHLN OR HI1449.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
STRAIN-Rd / KW20 / ATCC 51907;
MEDLINE-95350630; PubMed-7542800;
Plotone-95350630; PubMed-7542800;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Molybdenum
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FACTOR (MOAD) (BY SIMILARITY).
-!- PATHWAY: Molybdenum cofactor biosynthesis.
-!- SIMILARITY: BELONGS TO THE HESA/MOEB/THIF FAMILY.
                                         necrosis factor ligand superfamily
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
InterPro;
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rPro; IPR000594; '
; PF00899; Thif;
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A Poel C.I., Toth E.J., Yi Q., Nickerson D.A.;

L Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.

C --- FUNCTION: Cytokine that binds to LIBR/TNFRSF3. May play a specific role in immune response regulation. Provides the membrane anchor for the attachment of the heterotrimeric complex to the cell surface. Isoform 2 is probably non-functional.

C --- SUBUNIT: Heterotrimer of either two LTB and one LTA subunits or (Less prevalent) one LTB and two LTA subunits.

C --- SUBCELULAR LOCATION: Type II membrane protein (Potential).

C --- ALTERNATIVE PRODUCTS: 2 isoforms; 1 (shown here) and 2; are produced by alternative splicing.

C --- TISSUE SPECIFICITY: SPLEEN AND THYMUS.
                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Neville M.J., Milner C.M., Campbell R.D.;
"A new member of the immunoglobulin superfamily and subunit are amongst the predicted products of novel TNF locus in the human MHC.";
Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. (ISOFORM 1).
Shiina S., Tamiya G., Oka A., Inoko H.;
"Homo sapiens 2,229,817bp genomic DNA of 6p21.3 HLA class I region.";
Submitted (SEP-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A. (ISOFORM 1).
ROWEN L., Madan A., Qin S., Shaffe Abbasi N., Dickhoff R., Loretz C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Browning J.L., Ngam-Ek A., Lawton P.,
Chow E.P., Hession C., O'Brine-Greco I
"Lymphotoxin beta, a novel member of i
heteromeric complex with lymphotoxin
                                                                                                                                                                                                                or send
                                                                                                                                                                                                                                           entities requires a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Sequence of the region.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Identification of two lymphotoxin beta isoforms elymphoid cell lines and non-Hodgkin's lymphomas."; Blochem. Biophys. Res. Commun. 238:273-276(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (ISOFORMS 1 AND MEDLINE-97445965; PubMed-9299492;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rieder M.J.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (OCT-1999) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORM 1).
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L; L11016; AAA99888.1; -.
; U8992; AAC31769.1; -.
L; U79029; AAB37342.1; -.
L; L11015; AAA36191.1; -.
L; Y14768; CAA75069.1; -.
L; AB129756; AAD18089.1; -.
L; AP000505; BAB63395.1; -.
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                                                                                                                                                                                                             s requires a license agreement (See http://www.an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     K., Renard
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Shaffer T.,
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B., Foley S.F., Ware C.F.,
the TNF family that forms
on the cell surface.";
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Dors
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P12282;
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CARBOHYD
VARSPLIC
                                                                                                             SEQUENCE FROM N.A.
STRAIN-KI2 / MG1655;
MEDLINE-97426617; PubMed-9278503;
Blattner F.R., Plunkett G. III, Bloch
Riley M., Collado-Vides J., Glasner J.
                                                                                                                                                                                                                              SEQUENCE FROM N.A.

MEDLINE-88314906; Pubmed-3045084;

Nohno T., Kasai Y., Saito T.;

"Cloning and sequencing of the Escherichia in molybdopterin biosynthesis.";

J. Bacteriol. 170:4097-4102(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                01-0CT-1999 (Rel. 12, Creat
01-0CT-1989 (Rel. 12, Last
15-TUN-2002 (Rel. 41, Last
Molybdopterin biosynthesis
MOEB OR CHLN OR B0826.
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InterPro; IPR000478;
Pfam; PF00229; TNF; 1
                                                                                          Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F. Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.
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PROSITE; PS50049; TNF_2; 1.
Cytckine; Cytctoxin; Transmembrane;
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HSSP; P01374; 1TNR.
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SEQUENCE FROM N.A.
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                                                                          В.,
                                      complete genome sequence nce 277:1453-1474(1997).
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                                                                          Shao Y.;
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SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
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McClelland M., Sanderson K.E., Spieth J., Clifton S.W., Latreille P. Courtney L., Porwollik S., Ali J., Dante M., Du F., Hou S., Layman D Leonard S., Nguyen C., Scott K., Holmes A., Grewal N., Mulvaney E., Ryan E., Sun H., Florea L., Miller W., Stoneking T., Nhan M.,
                                                                                                                                                            STRAIN-LT2 / SGSC1412 / ATCC 700720; MEDLINE-21534948; PubMed-11677609;
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SIMILARITY: BELONGS TO THE HESA/MOEB/THIF FAMILY.
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Guasch J.F., Pique N., Climent N., Ferrer S., Merin
Tomas J.M., Regue M.;
"Cloning and characterization of two Serratia marce
involved in core lipopolysaccharide biosynthesis.";
J. Bacteriol. 178:5741-5747(1996).
-i- PATHWAY: Lipopolysaccharide core biosynthesis.
-i- SIMILARITY: BELONGS TO THE GLYCOSYLTRANSFERASE
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NATURE 413:852-856(2001).

-I- FUNCTION: INVOLVED IN BIOSYNTHESIS OF A DEMOLYBDO COFACTOR (MOLYBDOFTERIN), NECESSARY FOR MOLYBDOENZYMES. PLAYS A ROLL MOTIVATION OF THE SMALL SUBUNIT OF THE MOLYBDOFTERIN CONVE
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                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration -
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InterPro; IPR000594; Thif_domain.
Pfam; PF00899; Thif; 1.
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SIMILARITY: BELONGS TO THE HESA/MOEB/THIF FAMILY.
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(93JM10; 09JM11;
15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Lymphotoxin-beta (LT-beta) (Tumor necrosis factor C) (TNF-C) (Tumor necrosis factor 11gand superfamily member 3).

LTB OR TNESF3 OR TNFC.

Marmota monax (Woodchuck).
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InterPro; IPR001173; Glycos_transf_2.
Pfam; PF00535; Glycos_transf_2; 1.
Lipopolysaccharide blosynthesis; Transferase; Glycosyltransferase.
SEQUENCE 257 AA; 29233 MW; D40D7B57E002F990 CRC64;
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PRINTS; PR01234; TNECROSISFCT.
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Li D.H., Havell E.A., Brown C.L., Cullen J.M.;
"Woodchuck lymphotoxin-alpha, -beta and tumor necrosis factor
structure, characterization and biological activity.";
     DOMAIN
                                                                                                              Cytokine; Cytotoxin;
                                                                                                                                       PROSITE;
                                                                                                                                                                                          ProDom; PD002012;
                                                                                                                                                                                                                                                InterPro; IPR000478; 'Pfam; PF00229; TNF; 1
                                                                                                                                                                                                                                                                   InterPro; IPR003636; TNF_abc.
InterPro; IPR000478; TNF_family.
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Mammalia; Eutheria; Rodentia; Sciurognathi; Sciuridae; Sciurinae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUBUNIT: Heterotrimer of either two LTB and one LTA subunits or (less prevalent) two LTA and one LTB subunits (By similarity). SUBCELLULAR LOCATION: Type II membrane protein (Potential). SIMILARITY: BELONGS TO THE TUMOR NECROSIS FACTOR FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B 242:295-305(2000).

EUNCTION: Cytokine that binds to LTBR/TNFRSF3. May play a specific role in immune response regulation. Provides the membrane anchor role in the attachment of the heterotrimeric complex to the cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    European Bioinformatics Institute. The by non-profit institutions as long
                                                                                                                                 SM00207; TNF; 1.
E; PS50049; TNF_2; 1.
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                                                Transmembrane; Glycoprotein; Signal-anchor.
27 CYTOPLASMIC (POTENTIAL).
48 SIGNAL-ANCHOR (TYPE-II MEMBRANE PROTEIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
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EXTRACELLULAR (POTENTIAL)
                            (POTENTIAL)
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RESULT 41
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CONFLICT
SEQUENCE
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15-JUN-2002
15-JUN-2002
                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                      "The genome sequence of the plant pathogen Nature 406:151-159(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Xylella fastidiosa.
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ISPH OR LYTB OR XF2416.
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                                                                                                                                                                                                         FUNCTION: Converts 1-hydroxy-2-methyl-2-(E)-butenyl 4-diphosphate into isopentenyl diphosphate (IPP) and dimethylallyl diphosphate (DMAPP) (By similarity).

PATHWAY: Nonmevalonate terpenoid biosynthesis pathway; seventh
                                                                                                                                                                       SIMILARITY: BELONGS TO THE ISPH FAMILY.
                                                                                                                                                                                           last) step.
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7; Conserv
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nilarity 100.0%;
Conservative 0
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b; Pred. No. 60;
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D -> H (IN REF. 1; AAF34865).
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the European Bloinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).

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RESULT 42

ODPB_BACSI
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ID ODBACSI
ID ODBACSI
ID ODBACSI
ID OL-MA
DT 01-MA
DT 15-UI
DE PYTHI
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InterPro; IPR003451; LytB.
Pfam; PF02401; LYTB; 1.
TIGRFAMs; TIGR00216; lytB; 1.
Isoprene biosynthesis; Complete SEQUENCE 316 AA; 34704 MW;
                          modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a converge the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict
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01-MAY-1991 (Rel. 18, Created)
01-MAY-1991 (Rel. 18, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              complex, 36 kDa subunit).
PDHB OR ACEB.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bacillus subtilis.
Bacteria; Firmicutes; Bacillales;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hemila H., Palva A., Paulin L., Arvidson S. "Secretory S complex of Bacilius subtilis: identity to pyruvate debydrogenase.";
J. Bacteriol. 172:5052-5063(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=90368558; PubMed=1697575;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence analysis of the mobA-ampS region of the Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        276 LVDGVLA 282
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                                                                                                                                                                                                                                         FUNCTION: The pyruvate dehydrogenase complex catalyzes the overall conversion of pyruvate to acetyl-CoA and CO(2). It contains multiple copies of three enzymatic components: pyruvate dehydrogenase (E1), dihydrolipoamide acetyltransferase (E2) and lipoamide dehydrogenase (E3).

FUNCTION: THE B. SUBTLIES PDH COMPLEX POSSESSES ALSO BRANCHED-CHAIN 2-OXOACID DEHYDROGENASE (BCDH) ACTIVITY.

CATALYTIC ACTIVITY: Pyruvate + 11poamide = S-acetyldihydrolipoamide + CO(2).

COFACTOR: THIAMINE PYROPHOSPHATE.

SUBUNIT: HETERODIMER OF AN ALPHA AND A BETA CHAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BACSU
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Pfam; PF02780; transketolase_
Glycolysis; Oxidoreductase; F
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SubtiList; BG10208; pdhB.
InterPro; IPR000360; Transketolase.
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EMBL; Z99111; CAB13332.1;
PIR; C36718; C36718.
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or send an email to license@isb-sib.ch).
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Rhabditidae; Pelode:
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                                                                                                                                                                                                                                                                           mitted (JAN-1995) to the EMBL/GenBank/DDBJ databases.
SUBCELLULAR LOCATION: Integral membrane protein (Potential).
SIMILARITY: BELONGS TO THE C.ELEGANS RECEPTOR-LIKE PROTEIN SRA
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receptor class alpha 6 (Sra-6 protein).
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idoreductase; Flavoprotein; Thiamine pyrophosphate;
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01-MAR-1992 (Rel. 2
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(IMDH) (3-IPM-DH)
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SEQUENCE
Kirino H., Oshima T.; "Molecular cloning and nucleotide sequence of \hat{\mathbf{3}}-isopropylmalate dehydrogenase gene (leuB) from an extreme thermophile, Thermus
                                                                                                                                                                                                     Thermus aquaticus.
Bacteria; Thermus/Deinococcus group;
Thermaceae; Thermus.
                                                     MEDLINE-92041736; PubMed-1939005; Kirino H., Oshima T.;
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P24098;
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                                                                                                                                   SEQUENCE FROM N.A.
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035777;
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Mammalia; Eutheria;
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15-JUL-1999 (Rel. 38, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation updat
Implantation-associated protein.
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PIR; JX0173; JX0173.
HSSP; P00351; 1XAA.
InterPro; IPR001804; Isodh.
InterPro; IPR004429; LeuB.
Pfam; PF00180; isodh; 1.
TIGRFAMS; TIGR00169; leuB; 1.
PROSITE; PS00470; IDH_IMDH; 1.
OXIDOREDUCTE 344 AA; 36949 MW; 4F31A9444EB26408 CRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the European Bioinformatics and the European Bioinformatics Institute. There are no rest use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entities requires a license second
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -i- CATALYTIC ACTIVITY: 3-carboxy-2-hydroxy-4-methylpentanoate + NAD(+) = 3-carboxy-4-methyl-2-oxopentanoate + NADH.
-i- PATHWAY: Leucine biosynthesis; third step.
-i- SUBUNIT: HOMODIMER.
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J. Biochem. 109:852-857(1991).
-!- CATALYTIC ACTIVITY: 3-carb
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -i- SUBCELLULAR LOCATION: Cytoplasmic.
-i- SIMILARITY: BELONGS TO THE ISOCITRATE AND ISOPROPYLMALATE
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                                                                                                                                                88
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                                                                                                                                                SGLLALR 94
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100.0%; Pr
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5. 66;
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284
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SUMMARIES
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AAEO0895 Human TREPA (TNF r AAW29746 TNF related endoth

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ABG01186	ABG16279	ABP41674	AAM23684	ABP28041	ABB67712	AA008094	ABG20259	AAU61282	ABG03663	ABG03723	ABG46737	AAM37923	AAM21621	AAM77706	AAM64984	ABB26890	ABB43981	ABG45635	AAM36451	AAM20858	AAM76342	AAM63528	ABB25983	ABB42637	AAU51863	ABB73512	AAY14906	AAG01266	AAG01265	AAB07527	AAW47524	AAW93591	AAW93590	AAE00892
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		Human ovarian ant	Human EST encoded	Streptococcus poly	Drosophila melanog	Human polypeptide	Novel human diagno	Propionibacterium		Novel human diagno	Human peptide enco	Peptide #11960 enc	Peptide #8055 enco	Human bone marrow	Human brain expres	#8889	Peptide #11487 enc	Human peptide enco	Peptide #10488 enc		Human bone marrow	Human brain expres	Protein #7982 enco	Peptide #10143 enc	Ξ.			Human secreted pro	Human secreted pro	Amino acid sequenc	Mus musculus tumou	Mouse TNRL3 protei	н	Human UL4flag TRE

ALIGNMENTS

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WPI; 1998-145619/13. N-PSDB; AAV18600.	Browning JL, Chicheportiche Y;		(BIOJ) BIOGEN INC.	18-OCT-1996; 96US-0028515.		18-MAR-1997; 97US-0040820.	07-AUG-1997; 97WO-US13945.	14 EED 1330.	12-555-1000	WO9805783-A1.		Homo sapiens.		graft rejection.	cancer; autoimmune disease; immune system; stimulation; suppression;	TRELL; tumour necrosis factor related ligand; tnf; treatment;		Homo sapiens tumour necrosis factor related ligand (TRELL)	21-000-1330 (IIISC GUCIÀ)		AAW47525;	AAM4/323 Staildaid, FIOCEIN, 204 AA.	Tros standard Drotoin 201	RESULT 1	

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RESULT 2
AAY09369
ID AAY0
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Best Local Similarity
                                                                                                                               Human; tumour necrosis factor; Apo-3 ligand; lymphotoxin; apoptosis;
NF-KappaB-dependent transcription; JNK/SAPK-dependent response;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       treat, suppress or alter immune responses (especially involving human adenocarcinoma cells) involving a signal pathway between TRELL and its receptor. It's coding sequence can be used in gene therapy for TRELL-related disorders in mammals (especially humans), e.g. tumours, autoimmune and inflammatory diseases or inherited genetic disorders, by introducing into cells, and expressing, therapeutically effective amounts of a vector, e.g. a virus comprising a gene encoding TRELL. It may also be of use in the preparation of prepare probes for screening natural/synthetic DNAs for TRELL-encoding sequences
                 22-APR-1999.
                                                    WO9919490-A1.
                                                                                                                                                                                          Human tumour
                                                                                                                                                                                                                                                                                         AAY09369 standard; Protein; 249 AA
                                                                                    Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The sequence is that of human tumour necrosis factor related ligand (TRELL). TRELL or active fragments can be included with a carrier in pharmaceutical compositions to treat cancer, autoimmur diseases or immune responses to tissue grafts, or to stimulate or suppress the immune system. It is useful to screen for TRELL receptors, by labelling with a detectable label and screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                compositions for binding. Agents interfering with TRELL-receptor binding can also be screened for, can then be administered, optionally with interferon- gamma, to induce cell death or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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ilarity 100.0%;
Conservative (
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Pred. No. 2.2e-252;
); Mismatches 0;
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Best Local
                                                                                                              TWEAK blocking agent;
Graft-versus-Host dise
                            14-JAN-2000; 2000WO-US01044
                                                 20-JUL-2000
                                                                     WO200042073-A1
                                                                                          Homo sapiens.
                                                                                                                         TWEAK protein; immunological disorder; immune response; TWEAK blocking agent; autoimmune disease; organ transplo
                                                                                                                                                        Amino acid
                                                                                                                                                                            20-OCT-2000
                                                                                                                                                                                                                   AAB07526 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present sequence represents a human tumour necrosis factor (TNF) and lymphotoxin homologue designated Apo-3 ligand. Apo-3 ligand has cytostatic activity. Apo-3 ligand can be used to induce apoptosis in mammalian cancer cells, to induce NF-kappaB-dependent transcription to induce JNK/SAPK-dependent responses in mammalian cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; Fig 1; 74pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New human Apo-3 ligand (a tumour necrosis factor) homologue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N-PSDB; AAX56000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1999-287982/24.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17-DEC-1997;
10-OCT-1997;
                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                           276
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                                                                                                                                                                                                                                                                                                                                    216
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                                                                                                                                                                                                                                                                                          TYFGLFQVH 284
                                                                                                                                                                                                                                                                                                                       LLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFL 275
                                                                                                                                                                                                                                                                                                                                                               GAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYYLYCQVHFDEGKAYYLKLD
                                                                                                                                                                                                                                                                                                                                                                                            VAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTRARRATAAHYEVHPRPGQD
                                                                                                                                                                                                                                                                                                                                                                                                       VAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQD 155
                                                                                                                                                                                                                                                                      TYFGLFQVH 249
                                                                                                                                                                                                                                                                                                              LLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
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                                                                                                                                                       sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Marsters
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97US-0069862
97US-0062037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98WO-US21407
                                                                                                              disease;
                                                                                                                                                       of a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          87.7%;
                                                                                                           autoimmune disease;
ease; GVHD; lymphoid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SA,
                                                                                                                                                    soluble recombinant human TWEAK protein.
                                                                                                                                                                                                                    249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 249; DB Zu; ...
Pred. No. 2.7e-220;
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                                                                                                                                                                                                                   B
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                                                                                                        organ transplant rejection; cell malignancy; shock; tumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                inflammation;
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15-JAN-1999;

99US-0116168

(BIOJ) BIOGEN INC

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RESULT 4
AAY95378
ID AAX99
XX AAY9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
Matches 249; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               describes a method for preventing or treating an immunological disorder and/or inhibiting an immune response in an animal. The method comprises administering a TWRAK blocking agent. The method may be used for preventing and treating immune disorders associated with inappropriate expression and/or activity of TWRAK. These disorders include autoimmune diseases, acute and chronic millammation, organ transplant rejection, Graft-versus-Bost disease (GVMID), lymphoid cell malignancies, septic and other forms of shock, loss of immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Preventing and treating immune responses using modulators, especially antibodies, of TWEAK, TWEAK receptors and TWEAK ligands, useful for treating e.g. inflammation and graft versus host disease -
             Protein
                                                                                                                           uterine cancer;
                                                                                                                                             breast cancer;
                                                                                                                                                           PRO207; human;
                                                                                                                                                                                       Human PRO207 antitumour protein.
                                                                                                                                                                                                                    25-SEP-2000
                                                                                                                                                                                                                                                                               AAY95338 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   responsiveness (as seen in human immunodeficiency virus (HIV) infections) and failure of the immune response to tumour growth.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig 1; 45pp; English.
                                          Peptide
                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                    276
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                                                                                                                                                                                                                                                                                                                                                                                  TYFGLFQVH 284
                                                                                                                                                                                                                                                                                                                                                                                                                               LLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYYLYCQVHFDEGKAVYLKLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYYLYCQVHFDEGKAYYLKLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTRARRAIAAHYEVHPRPGQD 155
                                                                                                                                                                                                                                                                                                                                                                                                               LLYDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000-476036/41
                                                                                                                  nervous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           249 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sequence represents a TWEAK protein.
                                                                                                                                                                                                                    (first entry)
                                                                                                               antitumour; tumour; therapy; cytostatic;
ovariam cancer; renal cancer; colorectal cancer;
; prostate cancer; lung cancer; bladder cancer;
s system cancer; melanoma; leukaemia; neoplasm.
            /label= Signal_peptide
                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                               Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               87.7%;
                                                                                                                                                                                                                                                                              249
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Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2.7e-220;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 21;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 249;
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14-MAY-1999;
20-JUL-1999;
26-JUL-1999;
15-SEP-1999;
15-SEP-1999;
                                                    The present sequence is that of human antitumour protein PRO207, as deduced from a foetal kidney cDNA clone (see AAA49717). PRO207 shows amino acid sequence identity to tumour necrosis factor family members, especially human lymphotoxin-beta (23.4%) and human CD40 ligand (19.8%). Mol.wt. is 27,216. A claimed method for inhibiting the growth of a tumour cell comprises exposing the tumor cell to PRO179, PRO207, PRO320, PRO219, PRO221, PRO224, PRO328, PRO301, PRO526, PRO365, PRO356, PRO599 or PRO866 (see AAY95337-49), their agonists or chimeric polypeptides incorporating them. The tumour is especially a cancer selected from breast, ovarian, renal,
                                                                                                                                                                                                             Novel composition to inhibit neoplastic cell growth or tumor in mammal comprises polypeptides PRO179, PRO207, 1 PRO221, PRO224, PRO328, PRO301, PRO526, PRO362, PRO356, PRO866
                  system cancer, melanoma and leukaemia. Me expression of the antitumour proteins are
                                                                                                                                                                                                                                                                       WPI; 2000-442668/38.
N-PSDB; AAA49717.
                                                                                                                                                                                                                                                                                                                                                                                                                                         08-MAR-1999;
21-APR-1999;
                                        is especially a cancer selected from breast, ovarian, renal, colorectal, uterine, prostate, lung, bladder and central nervous
                                                                                                                                                                                        Claim 19;
                                                                                                                                                                                                                                                                                                           Napier
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-DEC-1999;
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                                                                                                                                                                                                                                                                                                                      Ashkenazi AJ,
                                                                                                                                                                                                                                                                                                                                            (GETH ) GENENTECH INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                22-DEC-1998;
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                                                                                                                                                                                       Fig 4; 172pp; English.
                                                                                                                                                                                                                                                                                                           J, Goddard
Pitti RM,
                                                                                                                                                                                                                                                                                                                                                                  99WO-USO5028
99US-0130232
99US-0134458
99US-0134287
99US-0144758
99US-0145698
99WO-US21090
99WO-US21547
                                 melanoma and leukaemia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                98US-0113296
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139..143
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118..124
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45..51
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36..42
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/note=
29..35
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121..127
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125..1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'note=
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                                                                                                                                                                                                                                                                                                            Wood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "amidation"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "prokaryotic membrane lipoprotein lipid"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "amidation"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "N-myristoylation"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "N-myristoylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Asn is N-glycosylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "N-myristoylation"
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                                                                                                                                                                                                                                                                                                           Godowski PJ,
d WI;
                                Methods for the recombinant
                                                                                                                                                                                                                                                                                                                      Gurney
                      also
                    provided
                                                                                                                                                                                                                                                                                                                       4
                                                                                                                                                                                                                                                                                                                       Marsters
                                                                                                                                                                                                                        r for treating
, PRO320, PRO219,
6, PRO509 or
                                                                                                                inhibiting
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Query Match

87.78;

Score

249;

BB

21;

Length 249;

Sequence

249

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Best

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RESULT 5
AAU86129
ID AAU8
XX AAU8
AC AAU8
XX AXX
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DT 15-2
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                                                                                                                                                                                                  .30-NOV-1999;
01-DEC-1999;
01-DEC-1999;
05-JAN-2000;
                                                                                                                                                                                                                                                                                          31-AUG-1999;
01-SEP-1999;
15-SEP-1999;
  WPI; 2002-205567/26.
N-PSDB; ABK40255.
                                                                                                            Ashkenazi AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; PRO; benign tumour; malignant tumour; lymphoid malignancy; leukaemia; neuronal disorder; stromal disorder; blastocoelic disoinflammatory disorder; immune disorder; anglogenic disorder;
                                                                                                                                                                                                                                                                                                                                                           28-JUL-1999;
17-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-JUN-1999;
22-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11-MAR-1999;
11-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11-FEB-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cytostatic; neuroprotective.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human PRO207 polypeptide
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAU86129 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 TYFGLFOVH 249
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   36 MAARRSQRRRGRRGEPGTALLVPLALGLGIALACLGLLLAVVSLGSRASLSAQEPAQEEL 95
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                                                                                                                                                        GENENTECH INC.
                                                                                                                                                                                                  2000WO-US00219
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                                                              Goddard A, Godo
Pan J, Pitti RM,
Wood WI;
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99WO-US21090
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99US-149395P.
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                                                                                 Godowski PJ,
i RM, Roy MA,
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; Mismatches 0;
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Stone DM;
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AC AAW7
AC TY
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Best Local :
                                                                          10-FEB-1998;
12-FEB-1997;
                                                                                                                                                                                   W09835061-A2
                                                                                                                                                                                                                                      TNF; endothelium proliferative agent; TREPA; wound healing; cancer; tissue grafting; vascularisation; apoptosis; autoimmune; birth control.
                                                                                                                                                                                                                                                                                TNF related endothelium proliferative agent protein.
                                            (ABBO ) ABBOTT
                                                                                                                      12-FEB-1998;
                                                                                                                                                     13-AUG-1998
                                                                                                                                                                                                                 Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                      AAW29745;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     polypeptides and the polynucleotide sequences encoding them. The PRO polypeptides, agonists, antagonists or anti-PRO antibodies are useful for treating benign or malignant tumours (e.g. renal, kidney, bladder, breast, etc), leukaemias and lymphoid malignancies, other disorders such as neuronal, glial, astrocytal, hypothalamic, glandular, macrophagal, stromal and blastocoelic disorders, inflammatory, immune and angiogenic disorders. The polynucleotide sequences are also useful in gene therapy. AAU86128-AAU86162 represent the human PRO polypeptides of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Thirty five nucleic acids encoding PRO polypeptides, useful for treating benign or malignant tumours, leukaemias and lymphoid malignancies, inflammatory, angiogenic and immunologic disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present invention relates to the isolation of novel human PRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 61; Fig 4; 302pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                          276 TYFGLFQVH 284
||||||||
241 TYFGLFQVH 249
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            156 GAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYYLYCQVHFDEGKAVYLKLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFL
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                                            LAB.
                                                                          98US-0021706
97US-0798692
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100.0%; Pred. No. 2.7e-220;
:ive 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The TNF-related endothelium proliferative agent (TREPA), or its activators or agonists, are used to treat a deficit of TREPA, e.g. to promote wound healing or tissue grafting, by promoting vascularisation, also to induce apoptosis for treating cancer and eliminating autoreactive T cells, as an adjunct to cancer chemotherapy or antiviral treatment. TREPA peptides can also be used to target cytotoxic agents or for affinity isolation of the corresponding receptor, the nucleic acid for which can be used to transform tumour cells to render them more responsive to TREPA and to screen for TREPA mimics. Ribozymes, antisense RNA, antibodies or peptides, are used to treat TREPA-associated diseases, e.g. tumours and metastases (by inhibiting vascularisations, inflammation or a wide range of autoimmune conditions, conditions involving abnormal stimulation of epithelial cells (e.g. atherosclerosis), for birth control (inhibiting ovulation and placental formation) or other angiogenic conditions (e.g. ulcers).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
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               US6207642-B1
                                                                                                                                grafting; vulnerary.
                                                                                                                                                 Human; tumour necrosis factor; TREPA; TNF related endothelium
                                                                                                                                                                                          Human TREPA (TNF related endothelium proliferative agent).
                                                                                                                                                                                                                           04-JUL-2001
                                                                                                                                                                                                                                                         AAE00891;
                                                                                                                                                                                                                                                                                     AAE00891 standard;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Detecting nucleic acid encoding TREPA - useful for diagnosis treatment of autoimmune disease, tumours and inflammation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB;
                                                             Domain
                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                249
                                                                                                                                                                                                                                                                                                                                                                                             284
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DB; AAV47613.
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                                          Location/Qualifiers
98..249
/label= Extracellul
                                                                                                                                                                                                                                                                                     Protein;
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100.0%; Pr
                                           Extracellular_domain
                                                                                                                                                                                                                                                                                     249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 241;
Pred. No.
                                                                                                                                              TNF; angiogenesis; wound healing;
proliferative agent; tumour; meta
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present invention relates to extracellular signal molecules, particularly members of tumour necrosis factor (TNF) family molecules designated as TREPA (TNF related endothelium proliferative agent). Soluble biologically active TREPA are used to treat TREPA-associated diseases, tumours or metastases. TREPA is used for inducing angiogenesis in human for promoting wound healing and for vascularising grafted tissue for successful grafting and to promote tissue grafts. The present amino acid sequence is clone ID #690050 human TREPA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Inducing angiogenesis in mammal at desired sites for promoting wound healing, by administering soluble fragment of extracellular domain of tumor necrosis factor related endothelium proliferative agent protein
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N-PSDB; AAD04350.
                                                                                                                                                                                          TWEAK extracellular domain-containing fusion protein.
                                                                                                                                                                                                                                                 26-SEP-2001
                                                                                                                                                                                                                                                                                                                                                              AAU03499 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
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10-FEB-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       249
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        249
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ilarity 100.0%;
Conservative
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98US-0021706
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                                                                                                                                                                                                                                                                                                                                                              Protein;
                                                                                                                                                                                                                                              entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 241; DB 22;
Pred. No. 6.1e-213;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
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ocular neovascularisation; diabetic retinopathy; neovascular glaucom retinoblastoma; retinopathy of prematurity; retrolental fibroplasia; rubeosis; uveitis; macular degeneration; arthritis; rheumatism;

extracellular domain; tumour necrosis factor; TNF; angiogenesis;

glaucoma;

corneal graft neovascularisation; psoriasis;

haemophilic condition;

joint;

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                                                                                                                                                                                                                                                                                                                                                          CC The sequence represents a a fusion protein encoded by the C expression vector pDC409-LZ-TWEAK. The fusion protein comprises a CC growth hormone leader, a leucine zipper multimerisation domain, and CC the extracellular domain of human TWEAK. The fusion protein was CC used in the isolation of human TWEAK. The fusion protein was CC used in the isolation of human cDNA library. The TWEAKRP-expressing CC clones from a COS cell human cDNA library. The TWEAK protein is CC angiogenesis. TWEAKR may therefore be used to screen for and develop TWEAKR agonists and antagonists for the modulation of CC angiogenesis, to be used in the treatment and diagnosis of human disease. CC majorens mediated by angiogenesis include ocular disorders CC characterised by ocular neovascularisation such as diabetic retinopathy, cretrolental fibroplasia, rubeosis, uveitis, macular degeneration and CC corneal graft neovascularisation, and inflammatory diseases such as arthritis, rheumatism and psoriasis. Other treatable diseases include CC malignant and metastatic conditions, myocardial angiogenesis, beenign tumours and preneoplastic conditions, myocardial angiogenesis, haemophilic joints, scleroderma, vascular adhesions, atherosclerotic configure neovascularisation, telangiectasia, wound granulation, coronary atherosclerosis, peripheral atherosclerosis and ischaemia.
                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Modulating angiogenesis in a mammal for treating diseases mediated by angiogenesis, e.g. solid tumours and vascular deficiencies of cardiac peripheral tissue, by administering antagonist or agonist of TWEAK
                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 1; Page 41; 46pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-417975/44.
N-PSDB; AAS03964.
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10-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          preneoplastic condition; myocardial angiogenesis; wound granulation; scleroderma; vascular adhesion; telangiectasi; ischaemia; human; atherosclerosics; plaque neovascularisation; coronary atherosclerosis; peripheral atherosclerosis; pDC409-LZ-TWEAK; TWEAK receptor; TWEAKR;
   258
                                                                                                                                               138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (IMMV ) IMMUNEX CORP
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                                                                                                                                                                                    67
                                                                                                                                                                                                                      78
                                                                                                                                                                                                                                                                             Local Similarity
SLRIRTLPWAHLKAAPFLTYFGLFQVH
                                                  LYCQVHFDEGKAYYLKLDLLVDGVLALRCLEEFSATAASSIGPQLRLCQVSGLLALRPGS
                                                                                                                          ARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYY
                                                                                                                                                                                                 SLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLYRPRRSAPKGRKTR 137
                                 LYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGS
                                                                                                     ARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYY
                                                                                                                                                                             SLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKTR 126
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                                                                                                                                                                                                                                                                                                                                 273 AA;
                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0172878.
2000US-0203347.
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                                                                                                                                                                                                                                                                           72.9%;
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                                                                                                                                                                                                                                                                     Score 207; DB 22; 1; Pred. No. 1.1e-181;
                                                                                                                                                                                                                                                          Mismatches
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                                                                                                                                                                                                                                                                                          Length 273;
                                                                                                                                                                                                                                                        Indels
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                                                                                                       186
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RESULT 9
AAED0895
ID AAED0895
AC AAED
XX AAED
XX AAED
XX Huma
XX Huma
XX Huma
XX Homo
XX Homo
XX Homo
XX ITREP
XX I 12-F
PR 12-F
PR 10-F
XX I 10-F
PR 10-F
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                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                        The present invention relates to extracellular signal molecules, particularly members of tumour necrosis factor (TNF) family molecules designated as TREPA (TNF related endothelium proliferative agent). Soluble biologically active TREPA are used to treat TREPA-associated diseases, tumours or metastases. TREPA is used for inducing angiogenesis in human for promoting wound healing and for vascularising grafted tissue for successful grafting and to promote tissue grafts. The present amino acid sequence is human TREPA fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Wiley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI;
                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                Example 14; Fig 1; 53pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Inducing angiogenesis in mammal at desired sites for promoting wound healing, by administering soluble fragment of extracellular domain of tumor necrosis factor related endothelium proliferative agent protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12-FEB-1997;
10-FEB-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              grafting; vulnerary.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; tumour necrosis factor; TNF; angiogenesis; wound healing; TNEPA; TNF related endothelium proliferative agent; tumour; metastasis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human TREPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         04-JUL-2001
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                                                                                                                                     139 RRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (ABBO ) ABBOTT
 121
                                                                                            199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          247
                                                           61
                                                                                                                      1 RRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYYL
                 LRIRTLPWAHLKAAPFLTYFGLFQVH
                                                                          YCQVHFDEGKAVYLKLDLLVDGYLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGSS
LRIRTLPWAHLKAAPFLTYFGLFQVH 146
                                                          YCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGSS
                                                                                                                                                                                     al Similarity
146; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2001-280760/29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  standard;
                                                                                                                                                                                                                                             146 AA;
                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (TNF related endothelium proliferative agent) fragment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97US-0798692.
98US-0021706.
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                                                                                                                                                                                                 51.4%;
                                                                                                                                                                                                                                                                                                                                                                                                              English.
                                                                                                                                                                                  Score 146; DB 2;; Pred. No. 6.4e-1
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  146
                                                                                                                                                                                   0
                                                                                                                                                                                                              Length 146;
                                                                                                                                                                                   Indels
                                                                                                                                                                                  0
                                                                                                                                                                                  Gaps
                                                          120
                                                                                      258
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RESULT 10
AAW29746
ID AAW29

AAW29746 standard; Protein;

189

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RESULT 11
AAE00892
ID AAE00
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AC AAE00
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                                                                                                                                                                                                                                                                                                                                                                                                                                The TNF-related endothelium proliferative agent (TREPA), or its C activators or agonists, are used to treat a deficit of TREPA, e.g. to CC promote wound healing or tissue grafting, by promoting vascularisation, CC also to induce apoptosis for treating cancer and eliminating autoreactive C Trells, as an adjunct to cancer chemotherapy or antiviral treatment. CC TREPA peptides can also be used to trarget cytotoxic agents or for CC affinity isolation of the corresponding receptor, the nucleic acid for CC which can be used to transform tumour cells to render them more CC responsive to TREPA and to screen for TREPA minics. CC responsive to TREPA and to screen for TREPA minics. CC RIDOZYMES, antisense RNA, antibodies or peptides, are used to treat CC vascularisation), inflammation or a wide range of autoimmune conditions, CC conditions involving abnormal stimulation of epithelial cells (e.g. conditions involving abnormal stimulation of epithelial cells (e.g. conditions), for birth control (inhibiting ovulation and placental formation) or other angiogenic conditions (e.g. ulcers).
                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 143; Conserv
                 AAE00892
                                                  AAE00892 standard;
                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 16; Page 125-6; 142pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Detecting nucleic acid encoding TREPA - useful for diagnosis treatment of autoimmune disease, tumours and inflammation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 1998-447255/38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TNF; endothelium proliferative agent; TREPA; wound healing; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      13-AUG-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TNF related endothelium proliferative agent protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (ABBO ) ABBOTT LAB
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12-FEB-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO9835061-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tissue grafting; vascularisation; apoptosis; autoimmune; birth control.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27-OCT-1998
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                                                                                                                                                                                                                                                                                       142 IAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYYLYCQ 201
                                                                                                                                     167
                                                                                                                                                                                                      107
                                                                                                                                                                                                                                    202 VHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGSSLRI 261
                                                                                                                                                                                                                                                                         47
                                                                                                                                                   RTLPWAHLKAAPFLTYFGLFQVH 284
                                                                                                                                     RTLPWAHLKAAPFLTYFGLFQVH 189
                                                                                                                                                                                                    VHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPGSSLRI
                                                                                                                                                                                                                                                                     IAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYYLYCQ
                                                                                                                                                                                                                                                                                                                                                                                                           189 AA;
                                                                                                                                                                                                                                                                                                                                          Conservative
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97US-0798692.
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                                                 Protein; 189 AA
                                                                                                                                                                                                                                                                                                                                                      50.4%;
                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                     Score 143; DB 19;
Pred. No. 4.6e-123;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                        Length 189;
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                                                                                                                                                                                                                                                                                                                                      0,
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RESULT 12
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AC AAW93
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                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention relates to extracellular signal molecules, particularly members of tumour necrosis factor (TNP) family molecules designated as TREPA (TNF related endothelium proliferative agent). Soluble biologically active TREPA are used to treat TREPA-associated diseases, tumours or metastases. TREPA is used for inducing angiogenesis in human for promoting wound healing and for vascularising grafted tissue for successful grafting and to promote tissue grafts. The present amino acid sequence is human UL4flag TREPA soluble construct. This sequence which is a biologically active molecule is capable of inducing proliferation in HUVEC (human umbilical vein endothelial cells) cells.
                                                         18-JUN-1999
                                                                                                                AAW93590 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wiley SR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; tumour necrosis factor; TNF; anglogenesis; wound healing; tumour; TREPA; TNF related endothelium proliferative agent; metastasis; grafting vulnerary; HUVEC; human umbilical vein endothelial cell; UL4flag.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Inducing angiogenesis in mammal at desired sites for promoting wound healing, by administering soluble fragment of extracellular domain of tumor necrosis factor related endothelium proliferative agent protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US6207642-B1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 2; Column 75-78; 53pp; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12-FEB-1997;
10-FEB-1998;
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                                                                                                                                                                                       167
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                                                                                                                                                                                                                                                                           202
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                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                      RTLPWAHLKAAPFLTYFGLFQVH 284
                                                                                                                                                                                                                                               IAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLYYLYCQ 106
                                                                                                                                                                                                                                                                                                                                                                                                                       189 AA;
                                                                                                                                                                                                                                                                                                                                                                Conservative
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                                                       (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    97US-0798692.
98US-0021706.
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                                                                                                                                                                                                                                                                                                                                                                          50.4%;
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                                                                                                                                                                                                                                                                                                                                                             Score 143; DB 22;
; Pred. No. 4.6e-123;
0; Mismatches 0;
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Tumour necrosis factor receptor; signal transducer molecule; TNF; APO4;

Human TNRL3 protein

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                                                                                                                                                                                                                                                                                                                                                                                                       This invention describes isolated Tumor Necrosis Factor (TNF) family creceptor polypeptides: APO4, APO6, APO8 and APO9 or their active CC fragments, and isolated TNF related ligands I and 3 (TNRLI and TNRL3) or CC their active fragments. APO4 is useful for diagnosing prostate cancer CC by determining levels of APO4 in an individual. Prostate cancer can also be treated using APO4 selective binding agents linked to a therapeutic CC molety. APO4 polypeptides are also useful for identifying selective binding agents to the polypeptide/active fragment which is extracellular, or CC expressed on the cell surface. The binding is preferably performed in CC vivo. APO4 polypeptides/active fragments are also useful for screening for agonists and antagonists by binding is preferably performed in CC vivo. APO4 polypeptides/active fragments are also useful for screening for agonists and antagonists by binding and observing the changer in APO4 activity. Effective pharmacological agents useful in diagnosis or treatment of disease are also identified using APO4 polypeptides/active fragments and APO4 signal transducer molecules that specifically interact CC with a cytoplasmic domain of APO4 and detecting a change in level of APO4 activity. The method is performed in vivo or in vitro. APO4 polypeptides are all useful as immunogens for preparing antibodies. APO4 is also useful for diagnosis/treatment of developmental or gestational CC abnormalities. APO8 was transfected to human breast carcinoma cell line
                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New Tumor Necrosis Factor family receptor polypeptides and ligands useful for diagnosis and treatment of prostate cancer and developmental or gestational abnormalities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  developmental abnormality; gestational abnormalitity; prostate cancer; APO6; APO8; TNRL-1; TNRL-3; diagnosis; treatment; therapy; disease; cytoplasmic domain; immunogen; antibody preparation; breast carcinoma;
                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 40; Fig 13A; 156pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                           MCF-7, and induced apoptosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chaudhary PM
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                                                                                              YLYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPG 256
                                                                                                                                                                             RARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYNRQIGEFIVTRAGLY 196
                                                                                                                                                                                                                                  VSLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKT 60
                                                                                                                                                                                                                                                         VSLGSRASLSAQEPAQEELVAEEDQDPSELNPQTEESQDPAPFLNRLVRPRRSAPKGRKT 136
                                   SSLRIRTLPWAHLKAAPFLTYFGLFQVH
                                                                         YLYCQVHFDEGKAVYLKLDLLVDGVLALRCLEEFSATAASSLGPQLRLCQVSGLLALRPG
                                                                                                                                                                                                                                                                                                                       207;
                                                                                                                                                      RARRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEEARINSSSPLRYYRQIGEFIVTRAGLY 120
                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                       208 AA;
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                                                                                                                                                                                                                                                                                                                                        37.78;
                                                                                                                                                                                                                                                                                                                 Score 107; DB 20;
Pred. No. 5.8e-90;
0; Mismatches 1;
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RESULT 13
AAW93591
                                                     This invention describes isolated Tumor Necrosis Factor (TNF) family CC receptor polypeptides: APO4, APO6, APO8 and APO9 or their active CC fragments, and isolated TNF related ligands 1 and 3 (TNRL1 and TNRL3) or CC their active fragments. APO4 is useful for diagnosing prostate cancer CC by determining levels of APO4 in an individual. Prostate cancer can also be treated using APO4 selective binding agents linked to a therapeutic CC molety. APO4 polypeptides are also useful for identifying selective CC binding agents, useful in diagnosis/treatment of disease by binding of agents to the polypeptide/active fragment which is extracellular, or CC expressed on the cell surface. The binding is preferably performed in CC vivo. APO4 polypeptides/active fragments are also useful for screening CC comparts and antagonists by binding and observing the changer in APO4 activity. Effective pharmacological agents useful in diagnosis or treatment of disease are also identified using APO4 polypeptides/active fragments and APO4 signal transducer molecules that specifically interact with a cytoplasmic domain of APO4 and detecting a change in level of APO4 activity. The method is performed in vitro. APO polypeptides are also identified using APO4 polypeptides or contivity. The method is performed in vitro. APO polypeptides are introduced and activity as also useful for diagnosis/treatment of developmental or gestational cell line CC compared to the continual activity and APO4 was transfected to human breast carcinoma cell line CC contivity. APO8 was transfected to human breast carcinoma cell line
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New Tumor Necrosis Factor family receptor polypeptides and ligands useful for diagnosis and treatment of prostate cancer and developmental or gestational abnormalities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tumour necrosis factor receptor; signal transducer molecule; TNF; APO4; developmental abnormality; gestational abnormalitity; prostate cancer; APO6; APO8; APO8; APO8; TNRL-1; TNRL-3; diagnosis; trantment; therapy; disease; cytoplasmic domain; immunogen; antibody preparation; breast carcinoma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 40; Fig 13B; 156pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   05-SEP-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-SEP-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     apoptosis; mouse.
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                                          and induced apoptosis.
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166 239

GPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH 284 GPQLRLCQVSGLLALRPGSSLRIRTLPWAHLKAAPFLTYFGLFQVH

Matches Query Match

46; Similarity

Local

16.2%; llarity 100.0%; Conservative

Score 46; DB s; Pred. No. 6.1 0; Mismatches

DB 20; 1 6.1e-34; 20; 0;

Length 211; Indels

0;

Gaps

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AAW47524
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                                                                                                                                                                                                                                                                                                                                ligand (TRELL). TRELL or active fragments can be included with a carrier in pharmaceutical compositions to treat cancer, autoimmune diseases or immune responses to tissue grafts, or to stimulate or suppress the immune system. It is useful to screen for TRELL receptors, by labelling with a detectable label and screening compositions for binding with a detectable label and screening compositions for binding. Agents interfering with TRELL-receptor binding can also be screened for, can then be administered, optionally with interferon- gamma, to induce cell death or treat, suppress or alter immune responses (especially involving human adenocarcinoma cells) involving a signal pathway between TRELL and its receptor. It's coding sequence can be used in gene therapy for TRELL-related disorders in mammals (especially humans), e.g. tumours, autoimmune and inflammatory diseases or inherited genetic disorders, by introducing into cells, and expressing, therapeutically effective amounts of a vector, e.g. a virus comprising a gene encoding TRELL. It may also be of use in the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the preparation of prepare probes for any tense at the 
                                                                                                                                                         Query Match
Best Local Similarity
Matches 32; Conserv
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                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The sequence is that of mouse tumour necrosis factor related
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tumour necrosis factor related ligand - useful for, e.g. treating cancer, auto-immune disease and immune responses to tissue grafts
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07-AUG-1996;
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                                                                                  139 RRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEE 170
                                                         80
                                                                                                                                                                                                                                                                                                                  for antisense therapy.
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DB; AAV18599.
                                                      RRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEE 111
                                                                                                                                                                                                                                                                 225
                                                                                                                                                         11.3%; S
llarity 100.0%;
Conservative 0;
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96US-0023541.
96US-0028515.
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1..21
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                                                                                                                                                         Score 32; DB
; Pred. No. 4.7
0; Mismatches
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                                                                                                                                                                               DB 19; I
4.7e-21;
                                                                                                                                                         0,
                                                                                                                                                                                                        Length 225;
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AAB07527
                                                                                                                                                                                                                                                                                    RESULT
AAG0126
ID AA
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Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present sequence represents a TWEAK protein. The specification describes a method for preventing or treating an immunological disorder and/or inhibiting an immune response in an animal. The method comprises administering a TWEAK blocking agent. The method may be used for preventing and treating immune disorders associated with inappropriate expression and/or activity of TWEAK. These disorders include autolimmune diseases, acute and chronic inflammation, organ transplant rejection, Graft-versus-Host disease (GVHD), lymphoid cell malignancies, septic and other forms of shock, loss of immune responsiveness (as seen in human immunodeficiency virus (HTV) infections) and failure of the immune response to tumour growth.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Preventing and treating immune responses using modulators, especially antibodies, of TWEAK, TWEAK receptors and TWEAK ligands, useful for treating e.g. inflammation and graft versus host disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TWEAK protein; immunological disorder; immune response; inflammation; TWEAK blocking agent; autoimmune disease; organ transplant rejection; Graft-versus-Host disease; GVHD; lymphoid cell malignancy; shock; tumour.
                                           Human; 5' EST;
gene therapy;
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                                                                                                                                                                               06-OCT-2000
                                                                                                                                                                                                                                      AAG01265;
                                                                                                                                                                                                                                                                                       AAG01265 standard; Protein; 58 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                     80 RRAIAAHYEVHPRPGQDGAQAGVDGTVSGWEE 111
                                                                                                                              secreted
                                                                       5' EST;
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32; Conserv
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                                                                                                                                                                               (first entry)
                                              expressed sequence tag; secreted protein; chromosome mapping.
                                                                                                                           protein,
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Pred. No.
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                                                                                                                                5346.
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. 4.7e-21;
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                                                                            cDNA isolation;
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Homo sapiens.

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Gaps

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RESULT 17
AAG01266
ID AAG01267
XX AAG01
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New nucleic acid that is a 5' expressed sequence tag (5' EST) for obtaining cDNAs and genomic DNAs that correspond to 5'ESTs and for diagnostic, forensic, gene therapy and chromosome mapping procedur
                                                                                                                                                                                                                                                                                                                                                                                       Human; 5' EST; expressed sequence 
dene therapy; chromosome mapping.
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     Dumas Milne Edwards
                                                                                                                26-FEB-1999;
                                                                                                                                                                    21-FEB-2000; 2000EP-0200610.
                                                                                                                                                                                                                                                                                     EP1033401-A2
                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human secreted protein, SEQ ID NO: 5347.
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                                                      (GEST ) GENSET
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les 9; Conserv
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Conservative
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  Giordano
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Best Local s
Matches 9
                                                                                                                                                                                            04-DEC-1998;
23-DEC-1997;
23-DEC-1997;
23-DEC-1997;
11-JUN-1998;
17-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present sequence is a polypeptide encoded by one of a large number of 5' ESTs derived from mRNAs encoding secreted proteins. The 5' ESTs were prepared from total human RNAs or polyA+ RNAs derived from 30 different tissues. EST sequences usually correspond mainly to the 3' untranslated region (UTR) of the mRNA because they are often obtained from oligo-dT primed cDNA libraries. Such ESTs are not well suited for isolating cDNA sequences derived from the 5' ends of mRNAs and even in those cases where longer cDNA sequences have been obtained, the full 5' uTR is rarely included. 5' ESTs are derived from mRNAs with intact 5' ends and can therefore be used to obtain full length cDNAs and genomic DNAs. 5' ESTs are also used in diagnostic, forensic, gene therapy and chromosome mapping procedures. They are used to obtain upstream regulatory sequences and to design expression and secretion vectors.
                                                                                     Prestidge RL,
                                                                                                                                                                                                                                                                                                                                                                                                        23-DEC-1998;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mycobacterium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               squamous cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          dermatitis; eczema; alopecia areata; skin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       dendritic cell maturation; infectious disease; immune disorder; can respiratory system; mycobacterial infection; allergy; tuberculosis; leprosy; sarcoidosis; lung cancer; asthma; skin disorder; psoriasis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mycobacterium vaccae protein; antigen; T cell activation; cytokine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Extended amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY14906 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 13; SEQ ID 5347; 71pp + CD-ROM; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      diagnostic, forensic, gene therapy and chromosome mapping procedures
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New nucleic acid that is a 5' expressed sequence tag (5') EST for obtaining cDNAs and genomic DNAs that correspond to 5'ESTs and fo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2000-500381/45.
N-PSDB; AAC01272.
                                                                                                                                             (GENE-)
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                                                                                                                                       GENESIS RES & DEV CORP LTD
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9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  carcinoma; melanoma.
                                                                                                                                                                                               97US-0997080.
97US-0997362.
98US-0095855.
98US-0156181.
                                                                                     Skinner
                                                                                                                                                                                                                                                                                                                     98US-0205426.
97US-0996624.
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                                                                                     MA,
                                                                                     Tan
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                                                                                     Ψ,
                                                                                     Visser
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                                                                                     Watson
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WPI; 1999-430163/36. N-PSDB; AAZ11368.

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RESULT 19
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C enthodology. Pharmaceutical compositions comprising the proteins or curvature, prevention, and detection of disorders including infectious contents are used for treatment of diseases, immune disorders and cancer. In particular, the compounds and curvature as the proteins are used for treatment of diseases of the respiratory system, curvature, such as mycobacterial infections, asthma, allergies, tuberculosis, atopic dermatitis, eczema, allergic contact dermatitiis, and skin cancers such as hasal carrians.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
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Best Local :
                                                                                                    Inhibiting skin inflammation associated with skin disorder e.g. psoriasis, by administering composition comprising delipidated deglycolipidated Mycobacterium vaccae cells or Mycobacterium vaccae culture filtrate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            alopecia areata; skin cancer; Mycobacterium vaccae; melanoma; cytostatic; antipsoriatic; dermatological; antiinflammatory; antiallergic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Skin disorder; psoriasis; atopic dermatitis; allergic contact dermatitis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         M vaccae GVs-9 protein SEQ
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                                                   Example 6;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US6328978-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mycobacterium vaccae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABB73512 standard; Protein;
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nes 9; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           immune
                                                                                                                                                                                                                                                                2002-138361/18.
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                                                                                                                                                                                                                                                                                                                                                                                                                        97US-0997080
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                                                 161-164; 116pp; English
                                                                                                                                                                                                                                                                                                                                                                       & DEV CORP LTD.
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                                                                                                                                                                                                                                                                                                                   Prestidge R;
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Pred. No.
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20;
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The present invention relates to a method of inhibiting skin inflammation

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RESULT 20
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Best Local :
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      Sequences AAU39105-AAU68017 represent Propionibacterium acnes immunogen: polypeptides. The proteins and their associated DNA sequences are used the treatment, prevention and diagnosis of medical conditions caused by P. acnes. The disorders include SAPHO syndrome (synovitis, acne, pustulosis, hypertosis and osteomyelitis), uveitis and endophthalmitis. P. acnes is also involved in infections of bone, joints and the central nervous system, however it is particularly involved in the inflammatory lesions associated with acne vulgaris. A method for detecting the presence or absence of P. acnes in a patient comprises contacting a sample with a binding agent that binds to the proteins of the invention and determining the amount of bound protein in the sample. The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            associated with a skin disorder selected from psoriasis, atopic dermatitis and allergic contact dermatitis, which involves administering a composition containing delipidated and deglycolipidated Mycobacterium vaccae cells or M. vaccae culture filtrate. The skin disorder to be treated may also include alopecia areata, and skin cancers such as basal cell carcinoma, squamous cell carcinoma and melanoma. The composition acts by inhibiting the Th2 immune response. The present sequence is a
                                                                                                                                                                                                                                                                                                                                                                                                                                         21-APR-2000; 2000US-199047P
02-JUN-2000; 2000US-208841P
07-JUL-2000; 2000US-216747P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SAPHO syndrome; synovitis; acne; pustulosis; hypertosis; osteomyelitis; uveitis; endophthalmitis; bone; joint; central nervous system; ELISA; inflammatory lesion; acne vulgaris; enzyme linked immunosorbent assay;
                                                                                                                                                                                                                                                         Propionibacterium acnes polypeptides and nucleic acids useful for vaccinating against and diagnosing infections, especially useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                        Example 1; SEQ ID No 13058; 1069pp; English.
                                                                                                                                                                                                                                          treating
                                                                                                                                                                                                                                                                                                          N-PSDB; AAS59552
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Propionibacterium acnes
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Propionibacterium acnes immunogenic protein #12759
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                                                                                                                                                                                                                                                                                                                                                                                                          (CORI-) CORIXA CORP.
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Note: The sequence data for this patent did not form part of the print specification, but was obtained in electronic format directly from we at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                   Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                             The invention relates to a single exon nucleic acid probe for measuring human gene expression in a sample derived from human foetal liver. The single exon nucleic acid probes may be used for predicting, measuring and displaying gene expression in samples derived from human fetal liver. The present sequence is a peptide encoded by a single exonucleic acid probe of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI;
                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                      Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human fetal liver -
                                                                                                                                                                                                                                                                                                                                                                                           Claim
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26-MAY-2000;
30-JUN-2000;
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                                                                                                                The present invention relates to single exon nucleic acid probes for measuring human gene expression in a sample derived from human heart (see ABA21355-ABA41305). The present sequence is a protein encoded by one sucle probe. The probes may be used for predicting, measuring and displaying gene expression in samples derived from the human heart via microarrays. By measuring gene expression, the probes are useful for predicting, diagnosing, grading, staging, monitoring and prognosing diseases of the human heart and vascular system e.g. cardiovascular disease,
                                                                                hypertension, cardiac arrhythmias and congenital heart disease. Note: The sequence data for this patent did not form part of the specification, but was obtained in electronic format directly from
                                                                                                                                                                                                                                                                                  WPI;
                                                Sequence
                                                                     at ftp.wipo.int/pub/published_pct_sequences.
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RESULT 24
AAM76342
ID AAM76
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Matches 8
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26 - MAY - 2000;
30 - JUN - 2000;
03 - AUG - 2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention provides a number of single exon nucleic acid probes which are derived from genomic sequences expressed in the human brain. They can be used to measure gene expression in brain cell samples, which may enable the diagnosis and improved treatment of nervous system diseases such as Alzheimer's disease, multiple sclerosis, schizophrenia,
                                                 Human; bone marrow expressed exon; gene expression analysis; probe; microarray; cancer; leukaemia; lymphoma; myeloma.
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                                                                                                                            Human
                                                                                                                                                                             06-NOV-2001
                                                                                                                                                                                                                                                                             AAM76342 standard; Protein; 55 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     epilepsy and cancers. The pr
the probes of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Single exon nucleic acid probes for analyzing gene expression in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2001-483446/52.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-JAN-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; brain expressed exon; gene expression analysis; probe;
mloroarray; Alzhelmer's disease; multiple sclerosis; schizophrenia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human brain expressed single
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                                                                                                                                                                                                                                                                                                                                                                                                  61 LGLGLALA 68
|||||||
12 LGLGLALA 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                            bone marrow
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
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2000US-0632366.
2000US-0234687.
2000US-0236359.
                                                                                                                                                                           (first entry)
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                                                                                                                            expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2.8%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                         probe encoded protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 8; 1
Pred. No.
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                                                                                                                            SEQ
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                                                                                                                         ID NO:
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RESULT 25
AAM20858
ID AAM20
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                                            04-FEB-2000; 2000US-0180312.

26-MAY-2000; 2000US-0207456.

30-JUN-2000; 2000US-0608408.

03-AUG-2000; 2000US-0632366.

21-SEP-2000; 2000US-0234687.

27-SEP-2000; 2000US-0236359.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention provides a number of single exon nucleic acid probes which are derived from genomic sequences expressed in the human bone marrow. They can be used to measure gene expression in bone marrow samples, which may enable the improved diagnosis and treatment of cancers such as lymphoma, leukaemia and myeloma. The present sequence is a protein encoded by one of the probes of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Penn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Peptide #7292 encoded by probe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAM20858;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
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27-SEP-2000;
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                                                                                                                                                                                                                           30-JAN-2001;
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                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                              cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Probe; human; microarray; gene expression;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 4; SEQ ID NO:
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30-JUN-2000;
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8; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MOLECULAR DYNAMICS INC
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2000US-0234687.
2000US-0236359.
2000US-0024263.
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2000US-0608408
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              36648; 658pp + Sequence Listing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chen W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55
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Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   cervical epithelial cell;
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                                                                                                                                                                     04-FEB-2000;
26-MAY-2000;
30-JUN-2000;
                         Human genome-derived single exon nucleic acid analyzing gene expression in human placenta -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention relates to human single exon nucleic acid probes (SENP: see AAI10068-AAI28459). The present sequence is a peptide encoded by one such probe. The SENPs are derived from human HeLa cells. The SENPs can be used to produce a single exon microarray, which can be used for measuring human gene expression in a sample derived from human cervical epithelial cells. By measuring gene expression, the probes are therefore useful in grading and/or staging of diseases of the cervix, notably
   Claim
                                                                                                                                                03-AUG-2000;
21-SEP-2000;
                                                                                                                                                                                                                                                                                                                 Probe; microarray;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                       analyzing
                                                         WPI; 2001-488897/53.
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                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                        genetic disorder
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zing gene expression in
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ilarity 100.0%;
Conservative
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2000US-0608408.
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2000US-0236359.
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                                                                                                                                                                                            2000US-0180312.
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654pp; English
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n human cervical epithelial cells -
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                                                                             Rank DR
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21-SEP-2000;
27-SEP-2000;
The invention relates to a spatially-addressable set of single exon nucleic acid probes for measuring gene expression in a sample derived from human lung comprising single exon nucleic acid probes having one 12614 nucleic acid sequences mentioned in the specification, or their complements or the 12387 open reading frames derived from the 12614 probes, Also included are a microarray comprising the novel set of probes; the novel set of probes which hybridise at high stringency to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; single exon probe; asthma; lung cancer; COPD; ILD; chronic obstructive pulmonary disease; interstitial lung disease; familial idiopathic pulmonary fibrosis; neurofibromatosis; tuberous sclerosis; Gaucher's disease; Niemann-Pick disease; Hermansky-Pudlak syndrome; sarcoidosis; pulmonary histiocytosis; lymphangioleiomyomtosis; Karagener syndrome; pulmonary alveolar proteinosis; fibrocystic pulmonary dysplasia; primary ciliary dyskinesis; pulmonary hypertension;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention relates to single exon nucleic acid probes (SENP: see AAI31315-AAI57546). The present sequence is a peptide encoded by on such probe. The probes are useful for producing a microarray for predicting, measuring and displaying gene expression in samples derived from human placenta. The probes are useful for antenatal diagnosis of
                                                                                                                                                                                                                                                                                                                                                                                      Penn
                                                                                                                                                                                                        Claim 27;
                                                                                                                                                                                                                                                                              Spatially-addressable set of single exon nucleic acid probes, used
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30-JUN-2000;
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8; Conserv
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2000US-207456P.
2000US-0608408.
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RESULT 28
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Best Local Similarity
Matches 8; Conserv
                                                                                                                                     04-FEB-2000;
26-MAY-2000;
30-JUN-2000;
03-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     haemosiderosis, pulmonary histiocytosis, lymphangioleiomyomtosis, pulmonary alveolar proteinosis, Karagener syndrome, fibrocystic pulmonary dysplasia, primary ciliary dyskinesis, pulmonary hypertension and hyaline membrane disease. The present sequence is a peptide/protein encoded by a single exon probe of the invention.

Note: The sequence data for this patent did not form part
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       04-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of the printed specification, but was obtained in electronic format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABB43981;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABB43981 standard; Peptide; 65 AA.
                                                                         21-SEP-2000;
27-SEP-2000;
                                                                                                                                                                                                                                                                                                          30-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                09-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; foetal liver; gene expression; single exon nucleic acid probe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Peptide #11487 encoded by human foetal liver single exon probe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ftp.wipo.int/pub/published_pct_sequences
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12
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                                   2000US-0207456.
2000US-0608408.
2000US-0632366.
2000US-0234687.
2000US-02346359.
2000US-0236359.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                          2001WO-US00669
                                                                                                                                                                                                                                       2000US-0180312.
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100.0%; Pr
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s; Pred. No. 13;
0; Mismatches
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o. 13;
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Best Local S
Matches 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             liver. The single exon nucleic acid probes may be used for predicting, measuring and displaying gene expression in samples derived from human fetal liver. The present sequence is a peptide encoded by a single exor nucleic acid probe of the invention.

Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 27; SEQ ID NO 36616; 639pp + sequence listing; English.
                                                                                                                                                                                                   04-FEB-2000; 2000US-0180312
26-MAY-2000; 2000US-0207456
                                                                                                                                                                                                                                                                                                                                             Human; gene expression; heart; microarray; vascular system; cardiovascular disease; hypertension; cardiac arrhythmia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to a singl
measuring human gene expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human fetal liver -
                                             Single
                                                                     WPI; 2001-488899/53
                                                                                                                                                                            30-JUN-2000;
03-AUG-2000;
                                                                                                                                                                                                                                                              09-AUG-2001
                                                                                                                                                                                                                                                                                    WO200157274-A2
                                                                                                                                                                                                                                                                                                                                  congenital heart
                                                                                                                                                                                                                                                                                                                                                                               Protein #8889 encoded by probe for measuring heart cell gene expression.
                                                                                                                                                                                                                                                                                                                                                                                                       23-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                              ABB26890
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABB26890 standard; Protein;
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                                   hearts
                                                                                                                  (MOLE-) MOLECULAR DYNAMICS INC
                                                                                                                                                                                                                                     30-JAN-2001; 2001WO-US00666
                                                                                                                                                                  21-SEP-2000;
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les 8; Conser
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LGLGLALA 29
                                                                                            SG,
                                             exon
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                                                                                                                                        2000US-0608408.
2000US-0632366.
2000US-0234687.
2000US-0236359.
2000US-024263.
                                             nucleic
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                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                             acid
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100.0%; Pred. No.
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                                                                                            Chen W,
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                                             probes
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                                             for analyzing gene expression
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o. 16;
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                                              Í'n
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Claim 15;

SEQ

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28660; 530pp; English

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RESULT 30
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26-MAY-2000;
30-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 03-AUG-2000;
21-SEP-2000;
27-SEP-2000;
                                                     The present invention provides a number of single exon nucleic acid probes which are derived from genomic sequences expressed in the human brain. They can be used to measure gene expression in brain cell samples, which may enable the diagnosis and improved treatment of nervous system diseases such as Alzheimer's disease, multiple sclerosis, schizophrenia, epilepsy and cancers. The present sequence is a protein encoded by one of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gene expression in samples derived from the human heart via microarrays. By measuring gene expression, the probes are useful for predicting, diagnosing, grading, staging, monitoring and prognosing diseases of the human heart and vascular system e.g. cardiovascular disease, human heart and vascular system e.g. cardiovascular disease, hypertension, cardiac arrhythmias and congenital heart disease. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; brain expressed exon; gene expression analysis; probe;
microarray; Alzheimer's disease; multiple sclerosis; schizophrenia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present invention relates to single exon nucleic acid probes for measuring human gene expression in a sample derived from human heart (see ABA21355-ABA41305). The present sequence is a protein encoded by one such probe. The probes may be used for predicting, measuring and displaying gene expression in samples derived from the human heart via microarrays.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30-JAN-2001; 2001WO-US00667.
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                                                                                                                                                                                                                                                                             Example 4;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          epilepsy; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human brain expressed single exon probe encoded protein SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAM64984 standard;
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                                                                                                                                                                                                                                                                             SEQ ID NO:
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2000US-0608408.
2000US-0632366.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0234687
2000US-0236359
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2.8%;
                                                                                                                                                                                                                                                                          37089;
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                                                                                                                                                                                                                                                                                                                                                                   probes
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Pred. No. 16;
0; Mismatches
                                                                                                                                                                                                                                                                    650pp +
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                                                                                                                                                                                                                                                                                                                                                             for analyzing gene expression
                                                                                                                                                                                                                                                                       Sequence Listing;
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                                                                                                                                                                                                                                                                       English
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                                                                                                                                                                                                                                                                                                                                                                   human
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RESULT 32 AAM21621 ID AAM21 XX

AAM21621 standard; Protein;

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22

LGLGLALA

29

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RESULT 31
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                     Query Match
Best Local S
Matches 8
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Best Local S
Matches 8
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26-MAY-2000;
30-JUN-2000;
03-AUG-2000;
21-SEP-2000;
27-SEP-2000;
04-OCT-2000;
                                                                                probes which are derived from genomic sequences expressed in the human bone marrow. They can be used to measure gene expression in bone marrow samples, which may enable the improved diagnosis and treatment of cancers such as lymphoma, leukaemia and myeloma. The present sequence is a protein encoded by one of the probes of the invention.
                                                                                                                                                                                                                             Penn
                                                              Sequence
                                                                                                                                                       Example
                                                                                                                                                                                   Human genome-derived single exon nucleic acid probes useful
                                                                                                                                                                                                          WPI;
                                                                                                                                                                                                                                                                                                                                                    30-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                        09-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                            WO200157276-A2
                                                                                                                                                                                                                                                                                                                                                                                                                Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; bone marrow expressed exon; gene expression analysis; probe; microarray; cancer; leukaemia; lymphoma; myeloma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human bone marrow
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAM77706;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAM77706 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                (MOLE-)
  61 LGLGLALA 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 LGLGLALA 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22 LGLGLALA 29
                                                                                                                                                                                                                             SG,
                                                                                                                                                                                                                                                                                                                                                                                                                sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8; Conserv
                      Similarity
8; Conserv
                                                                                                                                                       4; SEQ ID NO: 38012; 658pp + Sequence Listing; English
                                                                                                                                                                                                                                                MOLECULAR DYNAMICS INC
                                                                                                                                                                           gene expression in human bone marrow
                                                                                                                                                                                                                             Hanzel DK,
                                                              65
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                                                                                                                                     invention
                                                                                                                                                                                                                                                                   2000US-0180312
2000US-0207456
2000US-0608408
2000US-0632366
2000US-0234687
2000US-0234685
2000US-02346359
2000US-0236359
                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                    2001WO-US00668
                                                             A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                expressed probe encoded protein SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entry;
                               100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2.8%; Score 8;
100.0%; Pred. No.
                                                                                                                                    provides a number of single exon nucleic
                                          2.88;
                                                                                                                                                                                                                            Chen W,
                  J.08;
0;
                              Score 8; D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                            Rank DR;
                      Mismatches
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16;
                              DB 2
). 16;
                                          22;
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                      0,
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                                        Length 65
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                      Indels
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                      Gaps
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                      0;
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RESULT 33
AAM37923
ID AAM37
XX AAM37
AC AAM37
XX 17-OC
DT 17-OC
XX PPOb6
KW Prob6
KW Penet
XX Prob6
KW Genet
XX Homo
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                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 8; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                        The present invention relates to human single exon nucleic acid probes (SENP: see AAI10068-AAI28459). The present sequence is a peptide encoded by one such probe. The SENPs are derived from human HeLa cells. The SENPs can be used to produce a single exon microarray, which can be used for measuring human gene expression in a sample derived from human cervical epithelial cells. By measuring gene expression, the probes are therefore the product of the product of the product of the cervix, notably useful in grading and/or staging of diseases of the cervix, notably
                                     Probe; microarray;
                                                                                          17-OCT-2001
                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-JUN-2000;
03-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           04-FEB-2000;
26-MAY-2000;
                            genetic disorder
                                                              Peptide #11960 encoded by probe for measuring placental gene
                                                                                                                    AAM37923;
                                                                                                                                            AAM37923 standard; Protein; 65
                                                                                                                                                                                                                                                                                                                                                                               cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-488901/53.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Penn SG,
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27-SEP-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09-AUG-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Probe; human; microarray; gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptide #8055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    12-OCT-2001
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                                                                                                                                                                                                          LGLGLALA 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       genome-derived single exon nucleic acid probes useful for zing gene expression in human cervical epithelial cells -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27; SEQ ID No 26447; 487pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULAR DYNAMICS INC
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                                                                                                                                                                                                                                                                                                                 65
                                                                                                                                                                                                                                                            2.8%;
ilarity 100.0%;
Conservative
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2000US-0207456.
2000US-0608408.
2000US-0632366.
2000US-0234687.
2000US-0236359.
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                                                                                         (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        encoded by probe
                                        human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chen W,
                                       placenta;
                                                                                                                                                                                                                                                            b; Score 8; DB 2
b; Pred. No. 16;
0; Mismatches
                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rank
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               expression; cervical epithelial cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      for measuring cervical gene expression
                                     antenatal diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DR;
                                                                                                                                                                                                                                                                          DB 22;
. 16;
                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                      Length 65
                                                                                                                                                                                                                                                                                                                                                    part of the printed directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                               be used for
                                                                                                                                                                                                                                                              0
                                                               expression
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RESULT 34
ABG46737
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Best Local S
Matches 8
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26-MAY-2000;
30-JUN-2000;
03-AUG-2000;
                                                                                                                             Human; single exon probe; asthma; lung cancer; COPD; ILD; chronic obstructive pulmonary disease; interstitial lung disease; familial idiopathic pulmonary fibrosis; neurofibromatosis; tuberous sclerosis; Gaucher's disease; Niemann-Pick disease; Hermansky-Pudlak syndrome; sarcoidosis; pulmonary histiocytosis; lymphangioleiomyomtosis; Karagener syndrome; pulmonary alveolar proteinosis; fibrocystic pulmonary dysplasia; pulmonary alveolar proteinosis; fibrocystic pulmonary dysplasia; primary ciliary dyskinesis; pulmonary hypertension;
                                                                      WO200186003-A2
                                                                                             Homo sapiens.
                                                                                                                                                                                                                                          Human peptide
                                                                                                                                                                                                                                                                  19-AUG-2002
                                                                                                                                                                                                                                                                                           ABG46737;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The present invention relates to single exon nucleic acid probes (SENP: see ARI31315-AAI57546). The present sequence is a peptide encoded by on such probe. The probes are useful for producing a microarray for predicting, measuring and displaying gene expression in samples derived from human placenta. The probes are useful for antenatal diagnosis of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human genome-derived single exon nucleic acid analyzing gene expression in human placenta -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            analyzing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-488897/53.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Penn
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                                              15-NOV-2001
                                                                                                                                                                                                                                                                                                                  ABG46737 standard;
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                                                                                                                     hyaline membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human genetic disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-SEP-2000;
27-SEP-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
8; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULAR DYNAMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID No 38192; 654pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hanzel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           65 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ); 2000US-0180312.

; 2000US-0207456.

; 2000US-0608408.

; 2000US-0632366.

; 2000US-0234687.

; 2000US-0236359.

; 2000US-0236359.

; 2000US-0236359.
                                                                                                                                                                                                                                                                                                                                                                                                                         2.8%;
ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001WO-US00663
                                                                                                                                                                                                                                          encoded by genome-derived single exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DK,
                                                                                                                     disease
                                                                                                                                                                                                                                                                                                                Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chen W,
                                                                                                                                                                                                                                                                                                                  65
                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 8;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rank DR;
                                                                                                                                                                                                                                                                                                                  A
                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      probes useful
                                                                                                                                                                                                                                                                                                                                                                                                                            0
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                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                          probe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              encoded by one
                                                                                                                                                                                                                                          SEQ ID
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04-FEB-2000; 2000US-180312P

30-JAN-2001;

2001WO-US00665

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ABG03723
ID ABG
                                                                                                                                                                                         CC nucleic acid expressed in the human lung; measuring gene expression in a comprising (a) comtacting the array with a comprising (a) contacting the array with a company, and (b) measuring the label detectably bound to each probe of the array; identifying exons in a eukaryotic genome, comprising (c) (a) algorithmically predicting at least one exon from genomic sequences (c) of the eukaryote; and (b) detecting specific hybridisation of detectably comprising a fragment identical to the predicted exon, the probe is included in the above mentioned microarray; assigning exons to a single exon probe, comprising (a) identifying exons from genomic sequence by the method comprising (a) identifying exons from genomic sequence by the method cabove and (b) measuring the expression of each of the exons in several comprision of the exons should be assigned to a single gene, comprising (a) identifying exons from genomic sequence by the method cabove and (b) measuring the expression of each of the exons in several comprision of the exons should be assigned to a single gene; a peptide comprising one filture exons should be assigned to a single gene; a peptide comprising one of 12011 sequences, mentioned in the specification, or encoded by the probes of the exons should be assigned to a single gene; a peptide comprising one concertification, or encoded by the probes of the summan lung derived mana and for the study of lung diseases (C) (c) in the same stimal, lung cancer, chronic obstructive pulmonary diseases. (C) in the same stimal lung disease (IID), familial idiopathic pulmonary considerosis, pulmonary disease, expression analysis, and for identifying exons in a gene, particularly considered by a single exon probe of the properties of sequence disease. (C) pulmonary disease, Hermansky-Pudlak syndrome, sarcoidosis, pulmonary disease. (C) pulmonary diseases (E) pulmonary diseases (E) pulmonary diseases (E) pulmonary diseases (E) pulmonary diseases (E) pulmonary disease (E) pulmonary disease (E) pulmonary disease (E) pulmonary 
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                                                                                                QY
                            RESULT 35
                                                                                                                                  Matches
                                                                                                                                                 Best
                                                                                                                                                             Query Match
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30-JUN-2000;
03-AUG-2000;
21-SEP-2000;
27-SEP-2000;
04-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to a spatially-addressable set of single exon nucleic acid probes for measuring gene expression in a sample derive from human lung comprising single exon nucleic acid probes having ou 12614 nucleic acid sequences mentioned in the specification, or the complements or the 12387 open reading frames derived from the 12614
 ABG03723
                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  probes. Also included are a microarray comprising the novel set of probes; the novel set of probes which hybridise at high stringency to a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                measure gene expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Spatially-addressable set of single exon nucleic acid probes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (MOLE-) MOLECULAR DYNAMICS INC.
                                                                                                                                                                                                                   ftp.wipo.int/pub/published_pct_sequences
                                                                                                                               Local Similarity 100 nes 8; Conservative
                                                                        22
                                                                                                  61 LGLGLALA 68
                                                                        LGLGLALA
standard; Protein; 69
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2000US-0608408.
2000US-0632366.
2000US-234687P.
2000US-236359P.
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                                                                                                                                            2.8%;
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Wo. 16;
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ABG03663
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The polypeptide and polynucleotide sequences have applications in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and amino acid sequences. ABG00010-ABG30377 represent novel human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   diagnostic amino acid sequences of the invention. Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess biodiversity
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                                                           ABG03663 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
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N-PSDB; AAS67910.
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23-AUG-2000; 2000US-0649167.
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                                                                                                                                                                                                                                                                                                                                 Local
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100.0%; Pr
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ABG03663;

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RESULT 37
AAU61282
ID AAU61
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CC Note: The sequence data for this patent did not appear in the printed CC artic. wipo.int/pub/published_pct_sequences.
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Best Local Similarity
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23-AUG-2000; 2000US-0649167.
   27-FEB-2002
                                                           AAU61282;
                                                                                                                    AAU61282 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
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food supplement; medical imaging; diagnostic; genetic disorder.
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                                                                                                                       Protein;
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Propionibacterium acnes polypeptides and nucleic acids useful for vaccinating against and diagnosing infections, especially useful treating acne vulgaris -
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02-JUN-2000; 2000US-208841P
07-JUL-2000; 2000US-216747P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SAPHO syndrome; synovitis; acne; pustulosis; hypertosis; osteomyelitis; uveitis; endophthalmitis; bone; joint; central nervous system; EIISA; inflammatory lesion; acne vulgaris; enzyme linked immunosorbent assay; dermatological; osteopathic; neuroprotectant.
                                                                                                                                                                                                                                                                                                                           Skeiky YAW, Persing DH, L'maisonneuve J, Zhang Y,
                                                                                                                                                                                                                                 Example 1; SEQ ID No 22477; 1069pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                     20-APR-2001; 2001WO-US12865
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Propionibacterium acnes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Propionibacterium acnes immunogenic protein #22178
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                                                                                                                                                                                                                                                                                                                           Mitcham JL, Wang SS, Jen S, Carter D;
                                                                                                                                                                                                                                                                                                                                      Bhatia
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Sequences AAU39105-AAU68017 represent Propionibacterium acnes immunogenic complypeptides. The proteins and their associated DNA sequences are used in the treatment, prevention and diagnosis of medical conditions caused by the treatment, prevention and diagnosis of medical conditions caused by the content of the disorders include SAPHO syndrome (synovitis, acne, computations), and the central content of the central content of the central content of the central content of the central content of the central content of the central content of the central content of the central content of the central content of the central content of the central content of the central content of the central content of the central content of the central content of associated with acne vulgaris. A method for detecting the content of the content of the invention content of a binding agent that binds to the proteins of the invention condition of the invention content of the invention content of the content of the proteins of the invention content of the invention content of the protein of the invention content of the protein of the invention content of the protein of the invention content of the content of the protein of the invention content of the content of the content of the invention content of the content of the content of the protein of the printed content of the print tp.wipo.int/pub/published_pct_sequences

Sequence 84 A

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RESULT 38
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                  ABG20259 standard;
ABG20259;
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                                                                                                     Conservative
                  Protein; 110
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Pred. No. 20;
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18-FEB-2002

(first entry)

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RESULT 39
AAOO8094
ID AAOO8
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AC AAOO8
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DT 06-NO
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DE Human
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Conditions amino acid sequences of the invention.

Conditions are useful for treating activity.
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Human polypeptide SEQ ID NO 21986.
                                  06-NOV-2001 (first entry)
                                                                                                            AAO08094 standard; Protein; 117
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N-PSDB; AAS84446.
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23-AUG-2000; 2000US-0649167.
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8; Conserv
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ilarity 100.0%;
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Pred. No. 26;
0; Mismatches
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5. 26;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activin/inhibin activity and may be useful in the diagnosis and/or
                                                                                                                                            26-MAR-2002
                                                                                                                                                                        ABB67712;
                                                                                                                                                                                                ABB67712 standard; Protein; 184. AA
                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                             Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/jbblished_pct_sequences.
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18-MAY-2000; 2000US-0577409.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immundisorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopolesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Tang YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-FEB-2001; 2001WO-US04927.
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les 8, Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 21986; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                       117 AA;
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0; M1smatches
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Drosophila melanogaster polypeptide SEQ ID NO 29928

Drosophila; developmental biology; cell signalling; insecticide;

Drosophila melanogaster

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RESULT 41
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                                                                                                                                                                                                                                                                                                                                                                                                                                               Streptococcus; GAS; GBS; group B streptococcus; Streptococcus agalactiae; group. A streptococcus; Streptococcus pyogenes; antibacterial; antilnflammatory; infection; vaccine; meningitis; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invent useful in developmental biology and in elucidating cell signalling cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL01840-ABL16175) and the encoded proteins
                                                                                                                                 27-OCT-2000; 2000GB-0026333.
24-NOV-2000; 2000GB-0028727.
07-MAR-2001; 2001GB-0005640.
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Telford J,
                                                                                                                                                                                                                                    29-OCT-2001; 2001WO-GB04789
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                                                                                                                                                                                                                                                                                                                                                                                           Streptococcus agalactiae
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; SEQ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Venter JC,
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11-JUL-2000; 2000US-0614150
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                                                 (CHIR-) CHIRON SPA. (GENO-) INST GENOMIC
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Masignani V,
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Margarit Ros YI,
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5. 42;
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Fraser C;
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                 Tang YT,
Cao Y, [
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the treatment or prevention of infection or disease caused by Streptococcus bacteria, particularly S. agalactiae and S. pyrogenes. Nucleic acids encoding (I) are used to detect Streptococcus in a biological sample. (I) is used to determine whether a compound binds to (I). A composition comprising (I) or a nucleic acid encoding (I), may be used as a vaccine or diagnostic composition. The disease caused by Streptococcus that is prevented or treated may be meningitis. Nucleic acid encoding (I) may be used to recombinantly produce (I) and may be used in gene therapy. Antibodies to (I) are used for affinity chromatography, immunoassays, and distinguishing/identifying
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to a protein (ABP25413-ABP30895) from group B streptococcus/GBS (Streptococcus agalactiae) or group A streptococcus/GAS (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in the specification. The proteins have antibacterial and antiinflammatory activity. (I), nucleic acids encoding (I), ABN66044-ABN71526 and antibodies that bind (I) are used in the manufacture of medicaments for
                                                                                       25-JAN-2000; 2000US-0491404
17-JUL-2000; 2000US-0617746
03-AUG-2000; 2000US-0631451
15-SEP-2000; 2000US-0663870
                                                                                                                                                                                                                                                                                   Human; sheep; pig; cow; fruit fly; yeast; hamster; macaque; tomato; monkey; dog; sea urchin; expressed sequence tag; ESI diagnostics; forensic test; gene mapping; genetic disorder; biodiversity; gene therapy; nutrition.
                                                                                                                                                                                                                                                                                                                                                              Human EST encoded protein SEQ ID NO: 1209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Streptococcus proteins.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New Streptococcus protein for the treatment or prevention of infection or disease caused by Streptococcus bacteria, such as meningitis, and for detecting a compound that binds to the protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; ABN68672.
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                             Liu C,
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              Zhou P,
&A, Zhang
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J, Werhm
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RESULT 43
ABP41674
ID ABP41
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                                                                                     Isolated nucleic acid molecules encoding novel ovarian polypeptides, useful in the prevention, treatment and diagnosis of cancer (e.g. ovarian cancer), immune disorders, cardiovascular disorders and neurological diseases
                     Claim 11; SEQ ID No 2806; 2922pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; ovarian antigen; ovary; ovarian; breast; cancer; tumour; ovarian cancer; breast cancer; tumour; reproductive system disorder; infertility; pregnancy disorder; anovulation; polycystic ovary syndrome; PCOS; ovarian cyst; dysmenorrhoea; endocrine disorder; infection; inflammatory condition; immune disorder; blood disorder; cardiovascular disorder; respiratory disorder; neurological disorder; gastrointestinal disorder; urinary system disorder; drug screening; gene therapy; chromosome mapping; forensic analysis; antibody preparation; cytostatic; immunomodulatory; neuroprotective; antibody preparation; cytostatic; immunomodulatory; neuroprotective;
                                                                                                                                                                                                                                        WPI; 2002-147878/19.
N-PSDB; ABQ54751.
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                                                                                                                                                                                                                                                                                                                                   Birse CE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200200677-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antiinflammatory;
                                                                                                                                                                                                                                                                                                                                                                                          (HUMA-) HUMAN GENOME
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABP41674 standard; Protein; 222
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N-PSDB; AAH98343.
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                                                                                                                                                                                                                                                                                                                                Rosen
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RESULT 44
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Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at fifth the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the printed of the
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23-AUG-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        recombinant vectors and host cells comprising human ovarian antigen
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                                                                                                      Liu C,
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2000US-0649167
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New isolated polynucleotide and encoded polypeptides, useful

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Note: The sequence data for this patent did not appear in the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to isolated polynucleotide (I) and polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polynucleotides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques to restore normal activity of (II) or to treat disease states involving
                                                                                                                                                                                                                                                                                                                                                                                                                    Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder.
New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess
                                                                                                                                  Drmanac RT, Liu C,
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23-AUG-2000; 2000US-0649167.
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                                                                              WPI; 2001-639362/73.
N-PSDB; AAS65373.
                                                                                                                                                                                                                                                                                                           11-OCT-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel human diagnostic protein #1177.
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                                                                                                                                                                         (HYSE-) HYSEQ INC.
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ilarity 100.0%; Pred. No. 65
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C for identifying expressed genes. (I) is useful in gene therapy techniques
C to restore normal activity of (II) is useful in gene therapy techniques
C (II), (II) is useful for generating antibodies against it, detecting or
CC quantitating a polypeptide in tissue, as molecular weight markers and as
C a food supplement. (II) and its binding partners are useful in medical
C imaging of sites expressing (II). (I) and (II) are useful for treating
C disorders involving aberrant protein expression or biological activity.
C The polypeptide and polynucleotide sequences have applications in
C diagnostics, forensics, gene mapping, identification of mutations
C responsible for genetic disorders or other traits to assess biodiversity
C and to produce other types of data and products dependent on DNA and
C amino acid sequences. ABG00010-ABG30377 represent novel human
C diagnostic amino acid sequences of the invention.
C Note: The sequence data for this patent did not appear in the printed
C specification, but was obtained in electronic format directly from WIPO
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length: 2000000000
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284
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AG3547
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hypothetical prote	hypothetical prote	hypothetical prote	histone-like prote	outer membrane pro	allergen RA5B prec	hypothetical prote	conserved hypothet	allergen - rice	seed allergen RA5	hypothetical prote	hypothetical prote	probable transposa	T-cell activation	interleukin-13 - r	hypothetical prote

ALIGNMENTS

hypothetical protein z3516 [imported] - Escherichia coli (strain O157:H7, substrain C;Species: Escherichia coli
C;Species: Escherichia coli
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 14-Sep-2001
C;Accession: A85866
C;Accession: A85866
C;Accession: A85866
C;Accession: N.T.; Plunkett III, G; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Ma R;Perna, N.T.; Flunkett III, G; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Ma iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, K.; Apod. Nature 409, 529-533, 2001

A;Title: Genome sequence of enterohemorrhagic Escherichia coli 0157:H7. A;Reference number: A85480; MUID:21074935; PMID:11206551 A;Accession: A85866 A;Status: preliminary

A; Molecule type: DNA A; Residues: 1-111 <STO>

A;Cross-references: GB:AE005174; NID:g12516604; PIDN:AAG57389.1; GSPDB:GN00145; UWGP A;Experimental source: strain O157:H7, substrain EDL933 C;Genetics; A;Gene: Z3516

Matches Query Match Best Local Similarity Conservative 3.5%; Score 10; DB;; Pred. No. 0. DB 2; , 0.073; Length 111 Indels 0; Gaps

0

RESULT S78376

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63 IGLALACIGI 72 ||||||||| 40 IGLALACIGI 49

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photosystem I P700 apoprotein A2 - Odontella sinensis chloroplast C;Species: chloroplast Odontella sinensis C;Species: chloroplast Odontella sinensis C;Date: 17-Feb-1998 #sequence_revision 26-Feb-1998 #text_change 20-Jun-2000 C;Accession: S78376 C;Repella Sinensia C;Repella Sine

3.2%; Score 9; DB 2; Length 733;

Query Match

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hypothetical protein - Thermotoga maritima (strain MSB8)
(;Species: Thermotoga maritima
(;Species: Thermotoga maritima
(;Species: Thermotoga maritima
(;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 21-Jul-2000
(;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 21-Jul-2000
(;Accession: E72374
R;Nelson, K.E.; Clayton, R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein vng0080h [imported] - Halobacterium sp. NRC-1 C;Species: Halobacterium sp. NRC-1 C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001 C;Accession: G84168
R;Ng, W.V.; Kennedy, S.P.; Mahairas, G.G.; Berquist, B.; Pan, M.; Shukla, H.; Leithauser, B.; Keller, K.; Cruz, R.; Danson, M.J.; Hough, D.W.; Maddocks, Jung, K.H.; Alam, M.; Freitas, T.
Proc. Natl. Acad. Sci. U.S.A. 97, 12176-12181, 2000
A;Authors: Hou, S.; Daniels, C.J.; Dennis, P.P.; Omer, A.D.; Ebhardt, H.; LA A;Title: Genome sequence of Halobacterium species NRC-1.
A;Reference number: A84160; MUID:20504483; PMID:11016950
A;Accession: G84168
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C;Genetics:
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A; Residues: 1-58 <HUN>
C; Superfamily: sperm hist
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A;Title: Protamines of reptiles.
A;Reference number: A58208; MUID:96394458; PMID:8798564
A;Accession: A58208
                     Garrett, M.M.; Stewart, A.M.; Cotton,
C.M.
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A; Residues: 1-143 <STO>
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C; Accession: A58208
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C:Species: Chrysemys picta (painted turtle)
C:Date: 08-Nov-1996 #sequence_revision 08-N
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Similarity 100.0%;
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9; Conservative
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                             Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft, D.H.; Hiv
Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richardson,
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G.; Jabl
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A;Reference number: A82950; MUID:20437337; PMID:10984043
A;Station: D83080
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R;DelVecchio, V.G.; Kapatral, V.; Redkar, R.J.; Patra, G.; Mujer, C.; Los, T.; Ivanov; Mazur, M.; Goltsman, E.; Selkov, E.; Elzer, P.H.; Hagius, S.; O'Callaghan, D.; Let Proc. Natl. Acad. Sci. U.S.A. 99, 443-448, 2002
A;Title: The genome sequence of the facultative intracellular pathogen Brucella melit A;Reference number: AD3252; PMID:11756688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     bicyclomycin resistance protein [imported] - Brucella melitensis (strain 16
C;Speckes: Brucella melitensis
C;Date: 01-Feb-2002 #sequence_revision 01-Feb-2002 #text_change 01-Feb-2002
C;Accession: AG3547
                                                                                                                                                                                                                                                               adman, S.; Yuan, Y.; Brody, L.L.; Coulter, .; Lory, S.; Olson, M.V. Nature 406, 959-964, 2000
                                                                                                                                                                                                                                                                                                    R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warr, adman, S.; Yuan, Y.; Brody, L.L.; Coulter, S.N.; Folger, K.R.;
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A; Map position:
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A; Gene: TMC
                                                                                                      A;Cross-references: GB:AE004866; GB:AE004091; NID:g9950760; PIDN:AAG07909.1; GSPDB:GN
A;Experimental source: strain PAO1
                                                                                                                                             A; Molecule type: DNA
A; Residues: 1-278 <STO>
                                                                                                                                                                                                                                                                                                                                              C; Accession:
                                                                                                                                                                                                                                                                                                                                                          hypothetical protein PA4521 [imported] - Pseudomonas aeruginosa (strain PAOC;Species: Pseudomonas aeruginosa
C;Sate: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000
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A; Residues: 1-220 <KUR>
A; Cross-references: GB: AE008918; PIDN: AAL53546.1;
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A;Experimental source: strain MSB8
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A;Molecule type: DNA
A;Residues: 1-197 <ARN>
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K.R.; Kas, A.; Larbig,
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R;Cole, S.T.; Brosch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Connor, R.; Davies, R.; Devlin, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; Hogars, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S. Nature 393, 537-544, 1998
A;Authors: Squares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G. A;Title: Deciphering the biology of Mycobacterium tuberculosis from the complet A;Reference number: A70500; MUID:98295987; PMID:9634230
                                                                                                                                                                                                                                                             A;Gene: cysm3
C;Superfamily: threonine dehydratase
                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary; nucleic acid sequence not shown; translation not shown A;Molecule type: DNA A;Residues: 1-372 <COL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              probable cysteine synthase - Mycobacterium tuberculosis (strain H37RV)
C;Species: Mycobacterium tuberculosis
C;Date: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 20-Jun-2000
C;Accession: H70813
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A;Gene: PH0824
C;Superfamily: conserved hypothetical protein MTH900
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A;Title: Complete sequence and gene organization of the genome of a hyper-thermophilic A;Reference number: A71000; MUID:98344137; PMID:9679194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                hypothetical protein PH0824 - Pyrococcus horikoshii C;Species: Pyrococcus horikoshii C;Species: Pyrococcus horikoshii C;Date: 14-Aug-1998 #sequence_revision 14-Aug-1998 #text_change 20-Jun-2000 C;Accession: C71132
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A;Experimental source: strain H37Rv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Experimental source: strain OT3
A; Note: this accession replaces an interim accession
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A; Residues: 1-339 <KAW>
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A; Accession: C71132
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formate dehydrogenase (EC 1.2.1.2) beta chain -
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Methanococcus jannaschii
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R;Lin, A., Moffat, K.S., W., M.; KOO, H.; MOffat, K.S., White, euss, D.; Nierman, W.C.; White,
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A;Authors: Yoo, H.; Tao, Y.; Biddle, P.; Jung, M.; Krespan, W.; Perry, M.; Gordon-Ka
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C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C;Accession: E64300
R;Bult, C.J.; White, O.; Olsen, G.J.; Zhou, L.; Fleischmann, R.D.; Sutton, G.G.; Bla R;Bult, C.I.; Overbeek, R.; Kirkness, E.F.; Meinstock, K.G.; Merrick, J.M.; Glodek, rson, J.D.; Sadow, P.W.; Hanna, M.C.; Cotton, M.D.; Roberts, K.M.; Hurst, M.A. Science 273, 1058-1073, 1996
                                                                                                                                                                                                                    RESULT
D84885
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                                                                                                           hypothetical protein At2g45000 [imported] - Arabidopsis thaliana (Species: Arabidopsis thaliana (mouse-ear cress) C:Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001 C:Accession: D84885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Molecule type: DNA
A;Residues: 1-381 <KUR>
A;Cross-references: GB:AE008689; PIDN:AAL44750.1; PID:g17742385; GSPDB:GN00187
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C;Genetics:
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A; Map position: linear chromosome
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R; Wood, D.W.; Setub
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C; Species: Agrobacterium tumefaciens
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A; Residues: 1-379 <BUL>
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                                                         S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C. fat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon
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C:Superfamily: sperm warmany 5-1
C:Keywords: glycoprotein; occyte
C:Keywords: glycoprotein; occyte
F:45-300/Domain: ZP domain homoly
                                                                                                               A;Cross-references: GB:M63629
A;Note: the authors translated the codon CAA for residue 251 as G:C;Comment: This sulfated glycoprotein in the zona pellucida of the C;Comment: sperm-binding glycoprotein ZP3; ZP domain homology
                                                                                                                                                                                                                                    R;Kinloch, R.A.; Ruiz-Seiler, B.; Wassarman, P.M. Dev. Biol. 142, 414-421, 1990 A;Title: Genomic organization and polypeptide primary structure A;Reference number: A60503; MUID:91078540; PMID:2257975 A;Accession: A60503
                                                                                                                                                                                                                                                                                                                                                                          sperm-binding glycoprotein ZP3 precursor - golden hamster
N;Alternate names: sperm receptor; zona pellucida glycoprotein
C;Species: Mesocricetus auratus (golden hamster)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Goodner, B.; Hinkle, G.; Gattung, S.; Miller, N.; Blanchard, M.; Qurollo, B.; Goldman, A.; Liu, F.; Wollam, C.; Allinger, M.; Doughty, D.; Scott, C.; Lappas, C.; Markelz, B.; Science 294, 2323-2328, 2001
A;Title: Genome Sequence of the Plant Pathogen and Biotechnology Agent Agrobacterium tuna; Reference number: A97359; PMID:11743194
A;Accession: D98244
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                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-422 <KIN>
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C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999
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A; Residues: 1-397 <KUR>
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A; Residues: 1-387 <STO>
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                      2.8%;
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b; Pred. No. 18;
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  Score 8; DB 1; Pred. No. 19; 0; Mismatches
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A75267
C;Accession: A75267
R;White, O.; Eisen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, M.; Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
                                                                        probable transport protein - Deinococcus radioduran
C; Species: Deinococcus radiodurans
C; Date: 03-Dec-1999 #sequence_revision 03-Dec-1999
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RESULT 16
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T17220
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C;Superfamily: multidrug-efflux transporter
                                                                                                                                                                                                                                                                                 A;Title: Genome sequence of Yersinia pestis, the causative agent of plague. A;Reference number: AB0001; MUID:21470413; PMID:11586360
                                                                                                                                                                                                                                                                                                                    R;Parkhill, J.; Wren, B.W.; Thomson, N.R.; Titball, R.W.; Holden, M.T.G.; Prentice, deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, Il, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead, S.; Barr. Nature 413, 523-527, 2001
                                                                                                                                                                                                                                                                                                                                                                                           C;Species: Yersinia pestis
C;Date: 02-Nov-2001 #sequence_revision 02-Nov-2001
C;Accession: AC0347
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C; Superfamily:
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A;Residues: 1-443 <BLU>
A;Cross-references: EMBL:AL117414
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R;Blum, H.; Bauersac
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C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 02-Jun-2000
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A; Residues: 1-465 < KUR>
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- Deinococcus radiodurans (strain

#text_change 31-Mar-2000

R.J

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A;Cross-references: GB:U32795; GB:L42023; NID:g1574708; PIDN:AAC22811.1; PID:g1574713; C;Superfamily: unassigned ATP-binding cassette proteins; ATP-binding cassette homology C;Keywords: ATP; nucleotide binding; P-loop P;355-550/Domain: ATP-binding cassette homology <ABC> F;372-379/Region: nucleotide-binding motif A (P-loop)
                                                      A;Cross-references: GB:M64099; NID:g183141; PIDN:AAA58503.1; PID:g183142 C;Genetics:
                                                                                                  A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-586 <HEI>
                                                                                                                                                                                        R;Hetsterkamp, N.; Rajpert-De Meyts, E.; Uribe, L.; Forman, H.J.; Groffen, J. Proc. Natl. Acad. Sci. U.S.A. 88, 6303-6307, 1991
A;Title: Identification of a human gamma-glutamyl cleaving enzyme related to, A;Reference number: A41125; MUID:91296809; PMID:1676842
                                                                                                                                                                                                                                                                                        C:Species: Homo sapiens (man)
C:Date: 27-Mar-1992 #sequence_revision 27-Mar-1992 #text_change 18-Jun-1999
C:Accession: A41125
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A;Accession: E64186
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              probable ATP-binding transport protein HII156 - Haemophilus influenzae (str C;Species: Haemophilus influenzae C;Date: 18-Aug-1995 #sequence_revision 18-Aug-1995 #text_change 02-Feb-2001
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A;Accession: A75267
                                                                                                                                                                                                                                                                                                                                                          gamma-glutamyltransferase (EC 2.3.2.2) related protein - hu.Alternate names: gamma-glutamyltransferase-like activity
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A; Residues: 1-576 <TIGR>
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A; Residues: 1-471 <WHI>
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         A;Cross-references:
                             Gene: GDB:GGTLA1;
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Gene: DR2502
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8; Conserv
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GDB:134033
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100.0%; Pr
0;
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100.0%; Pr
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Pred. No.
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21;
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protamine - North American opossum C;Species: Didelphis virginiana, Didelp C;Date: 06-Jan-1995 #sequence_revision C;Accession: S34045 R;Winkfein, R.J.; Nishikawa, S.; Connor
                                                                                                                     RESULT
S34045
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A; Introns: 37/1
C; Superfamily: sperm his
C; Keywords: chromosomal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: protein
A; Residues: 1-45 <HUN>
C; Superfamily: sperm his:
                                                                                                                                                                                                                                         R;Queralt, R.; Oliva, R. Nucleic Acids Res. 19, 5786, 1991

A;Title: Protamine 1 gene sequence from the primate Saguinus A;Reference number: S22582; MUID:92051332; PMID:1840669
                                                                                                                                                                                                                                                                                                              protamine 1 - Saguinus imperator
C;Species: Saguinus imperator
C;Date: 22-Nov-1993 #sequence_revision 12-Apr-1996 #text_change 21-Jul-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Accession: D58208
R;Hunt, J.G.; Kasinsky, H.E.; Elsey, R.M.; Wright, C.L.;
J. Biol. Chem. 271, 23547-23557, 1996
A;Title: Protamines of reptiles.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protamine II-3 - painted turtle
C;Species: Chrysemys picta (painted turtle)
C;Date: 08-Nov-1996 #sequence_revision 08-Nov-1996 #text_change 07-May-1999
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                                                                                                                                                           C; Genetics:
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A; Residues: 1-50 < QUE>
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Best Local
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Best Local
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Best Local (
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                            42 QRRRGRR 48
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18 QRRRGRR 24
                                                                                                                                                                                                                                                                                                                                                                                                                       24 RRRGRRG
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                                                                                                                                                                       EMBL: X61678; NID: g58405; translated the codon TAC
                                                                                                             protein; DNA binding; nucleus; spermatogenesis
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28;
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North American opossum Didelphis virginiana, Didelphis marsupialis virginiana (North American Tan-1995 #sequence_revision 06-Jan-1995 #text_change 23-Jul-1999

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S.; Connor, W.;

Dixon, G.H.

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Eur. J. Blochem. 215, 63-72, 1993
A;Title: Characterization of a marsupial sperm protamine gene and its transcripts
A;Reference number: S34045; MUID:93345500; PMID:8344286
A;Accession: S34045
                                                                                                                                                                                                                                                                                Science 282, 2012-2018, 1998
A;Title: Genome sequence of the nematode C. elegans: a platform A;Reference number: A75000; MUID:99069613; PMID:9851916
                                                                                                                                                                                                                         A;Note: see websites genome.wustl.edu/gsc/C_elegans/ and www_sanger.ac.uk/Projects/C_ele
A;Note: published errata appeared in Science 283, 35, 1999; Science 283, 2103, 1999; and
A;Accession: F87993
                                                                                                                                                                                                                                                                                                                                                                      protein ZC334.3 [imported] - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 10-May-2001 #sequence_revision 10-May-2001 #text_change 10-May-2001
C;Accession: F87993
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A;Title: Complete Genome Sequence of Caulobacter crescentus. A;Reference number: A87249; MUID:21173698; PMID:11259647
A;Accession: F87604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein CC2870 [imported] - Caulobacter crescentus C; Species: Caulobacter crescentus C; Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change
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C;Superfamily: sperm histone
C;Keywords: DNA binding; nucleus
                                                                                                                                                                                                                                                                                                                                               R; anonymous, The C. elegans Sequencing Consortium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Cross - references: GB: AE005673; NID: g13424486; PIDN: AAK24834.1; GSPDB: GN00148
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A; Residues: 1-86 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C; Accession:
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A; Residues: 1-58 <WIN>
                                                               A; Map
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                                                                                                                                             Cross-references: GB:chr_I; PIDN:CAB04964.1;
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Best Local :
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Residues: 1-102 <STO>
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    Local
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                                                                                    ZC334.3
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7; Conser
  Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            T.V.; Paulsen, I.T.; Nelson, K.E.; Elsen, J.; Heidelberg, .; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Koi, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2.5%;
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Pred. No.
Score 7;
Pred. No.
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Pred. No.
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DB 2;
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                                                                                                                                           PID:g3881432; GSPDB:GN00019; CESP:ZC334
                  Length 102;
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R;Schoner, B.; Kahn, M.
Gene 14, 165-174, 1981
A;Title: The nucleotide sequence of IS5 from Escherichia coll.
A;Reference number: A91483; MUID:82028653; PMID:6269959
                                                C;Date: 18-Dec-1981 #sequence_revision
C;Accession: B91483; C03582; A04466
R;Schoner, B.; Kahn, M.
                                                                                                   hypothetical protein, 12K - C; Species: Escherichia coli
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A; Residues: 1-115 <STO>
A; Cross-references: GB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Title: Complete genome sequence of Pseudomonas aeruginosa A; Reference number: A82950; MUID: 20437337; PMID: 10984043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           adman, S.; Yuan, Y.; Brody, .; Lory, S.; Olson, M.V. Nature 406, 959-964, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Date: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       conserved hypothetical protein PA3557 [imported] - C; Species: Pseudomonas aeruginosa
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J. Exp. Med. 177, 1039-1046, 1993
A;Title: Lack of extensive mutations in the
A;Reference number: PH1557; MUID:93210459; F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C;Species: Homo sapiens (man)
C;Date: 05-Aug-1994 #sequence_revision 05-Aug-1994 #text_change
C;Accession: PH1560
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A;Accession: H83201
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A; Residues: 1-115 < RAS>
                                                                                                                                                     RESULT 27
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C; Species: Homo sapiens (man)
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Best Local :
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llarity 100.0%;
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                                                                                                                    Escherichia coli insertion sequence
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s; Pred. No. 57;
0; Mismatches
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Pred. No.
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A.; Larbig,
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K.; L
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conserved hypothetical protein Atu1065 [imported] - Agrobacterium tumefaciens C;Species: Agrobacterium tumefaciens C;Species: Agrobacterium tumefaciens C;Date: 11-Jan-2002 #sequence_revision 11-Jan-2002 #text_change 11-Jan-2002 C;Accession: AH2707 R;Wood, D.W; Setubal, J.C.; Kaul, R.; Monks, D.; Chen, L.; Wood, G.E.; Chen, R;Wood, D.W; Setubal, J.C.; Kaul, R.; Monks, D.; Kutyavin, T.; Levy, R.; Li, Merage, G.; Gillet, W.; Grant, C.; Guenthner, D.; Kutyavin, T.; Levy, R.; Li, Karp, P.; Romero, P.; Zhang, S.; Science 294, 2317-2323, 2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Science 294, 849-852, 2001

8; Authors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; ok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; A;Title: Comparative genomics of Listeria species.

A;Reference number: AB1077; MUID:21537279; PMID:11679669

A;Accession: AE1753
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R;Engler, J.A.; van Bree, M.P.
Gene 14, 155-163, 1981
A;Title: The nucleotide sequence and protein-coding capability of the transposable A;Reference number: A03582; MUID:82028652; PMID:6269958
A;Accession: C03582
                                                                                          A; Title: The Genome of the Natural Genetic A; Reference number: AB2577; PMID:11743193
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A;Molecule type: DNA
A;Residues: 1-118 <GLA>
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                                                               A; Accession: AH2707
                                                                                                                                  A; Authors: Yoo, H.; Tao, ster, E.W.
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A; Residues: 1-118 <ENG>
                                          A; Status: preliminary
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A; Molecule type: DNA
Molecule type: DNA Residues: 1-123 <KUR>
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5. 59;
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RESULT

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A; Gene:
C; Superf
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Biochem. Biophys. Res. Commun. 197, 612-618, 1993
A;Title: Cloning of rat interleukin-13 (IL-13) cDNA and A;Reference number: I52290; MUID:94092138; PMID:7916615
A;Accession: I52290
                                                                                                                                                                                                                                                                                               C;Species: Rattus norvegicus (Norway rat)
C;Date: 02-Aug-1996 #sequence_revision 02-Aug-1996 #text_change 16-Jul-1999
C;Accession: I52290
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A; Residues: 1-131 <RES>
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A; Introns: 99/1
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A;Experimental source: clone ZC334
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C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision
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A; Map position:
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A;Experimental source: strain C58 (Dupont)
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                                                                                                                                                                                                                                                                                                                                                                          RESULT
                                                                                                                                                                                                                                                                                                                                           interleukin-13 - rat
                                                         Matches
                                                                       Query Match
Best Local
                                                                                                                   Superfamily: interleukin-13
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Best Local
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||||||
33 LLVPLAL 39
                            65 LALACLG 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity 100 les 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              50 RLPLPRS 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12 RLPLPRS 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity les 7; Conserv
9
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                                                                                                                                    IL-13
LALACIG
                                                      ! Similarity
7; Conserv.
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15
                                                                                                                                                               GB:L26913; NID:g438875; PIDN:AAA16478.1; PID:g438876
                                                                       2.5%;
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Pred. No.
                                                                       Score 7;
Pred. No.
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61;
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64;
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61;
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C;Date: 08-Sep-2006
C;Accession: T37116
R;Saunders, D.C.; Harris, D.
submitted to the EMBL Data L
**Peference number: Z21588
A;Cross-references: GB:AP000007; GB:AP000001; A;Experimental source: strain OT3
A;Note: this accession replaces an interim acc A;Note: this sequence is split into two separa C;Genetics:
                                                                                                                                                         M.; Ohfuku, Y.; Funahashi, T.; Tanaka, T.; Kudoh, Y.; Y
DNA Res. 5, 55-76, 1998
A;Title: Complete sequence and gene organization of the
A;Reference number: A71000; MUID:98344137; PMID:9679194
A;Accession: A71217
                                                                                                                                                                                                                  R; Kawarabayasi, Y.; Sawada, M.; Ohfuku, Y.; Funahashi, DNA Res. 5, 55-76, 1998
                                                                                                                                 A;Status: nucleic acid sequence not shown; translation not shown
                                                                                                                                                                                                                                                                                   C:Species: Pyrococcus horikoshii
C:Date: 14-Aug-1998 #sequence_revision 14-Aug-1998 #text_change 20-Jun-2000
                                                                                                 A; Molecule type: DNA
A; Residues: 1-147 <KAW>
                                                                                                                                                                                                                                                                                 C; Accession: A71217
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                                                                                                                                                                                                                                                                                                                                    hypothetical protein PH2001 - Pyrococcus horikoshii
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A:Residues: 1-131 <BRO>
A:Cross-references: GB:M23504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       s of various activation processes A; Reference number: A30552; MUID: A; Accession: E30552
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J. Immunol 142, 679-687, 1989
A:Title: A family of small inducible proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            T-cell activation protein P600 precursor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 28-Aug-1989 #sequence_revision 28-Aug-1989 #text_change 16-Jul-1999
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Best Local S
Matches 7
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                                    this accession replaces an interim accession for a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ø
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              eplaces an interim accession for a sequence replaced by GenBank split into two separate translations in GenBank (residues 1-12/
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brary, August 1999
                                                                                                                                                                                                                                  Horikawa, H.; Haikawa,
Tanaka, T.; Kudoh, Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NID:g533246; PIDN:AAA40149.1; PID:g533247
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                                                                      NID:g3236134; NID:g3236128;
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                                                                                                                                                                                                                                Y.; Hino,
Yamazaki,
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Kushida,
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                                                                      PID:g3258445;
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submitted to the EMBL Data Library, A;Description: Nucleotide sequence
                              C;Accession: T02664
R;Yun, C.H.; Park, J.H.; Eun, M.Y.
                                                            C;Species: Oryza sativa (rice)
C;Date: 24-Mar-1999 #sequence_
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                                                                                                                                                                                                                                                                        A;Cross-references: EMBL:D11430; NID:g218196; PIDN:BAA01996.1; C;Superfamily: wheat alpha-amylase inhibitor C;Keywords: seed
                                                                                        allergen - rice
                                                                                                                                                                                                                                                                                                                                           Plant Mol. Biol. 21, 239-248, 1993
A;Title: Gene structure and express
A;Reference number: S31078; MUID:9;
A;Accession: S31078
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S31078
                                                                                                      T02664
                                                                                                                     RESULT
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A; Residues: 1-157 < ADI
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C;Date: 30-Sep-1993 #sequence_revision 30-Sep-1993 #text_change 20-Jun-2000
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A; Residues: 1-150 <OTT>
A; Cross-references: EMBL: AL050075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C;Species: Homo sapiens (man)
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 13-Aug-1999
C;Accession: T08734
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A; Accession: T08734
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                                                                                                                                                                                                                                                                                                                                                                                               R; Adachi, T.; Izumi, H.; Yamada,
                                                                                                                                                                                                                                                                                                                                                                                                                  C; Accession: S31078
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C;Superfamily: Pyrococcus horikoshii hypothetical
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Best Local S
Matches 7
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7; Conserv
    Nucleotide sequence
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                                                           #sequence_revision
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                                                                                                                                                                                                                              Score 7; 1; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                T.; Tanaka, K.; Takeuchi, S:;
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Pred. No
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Pred. No.
    of
January 1998
of rice allergenic protein
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                                                         24-Mar-1999 #text_change 16-Jul-1999
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75;
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71;
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May 1999
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C:Species: Deinococcus radiodurans
C:Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 31-Mar-2000
C:Accession: E75530
                                                                                                                                                    A; Molecule type: DNA
A; Residues: 1-157 <WHI>
                                                                                                                                                                                                                                                                          R;White, O.; Elsen, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, M.; Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, S.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
Science 286, 1571-1577, 1999
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Science 286, 1571-1577, 1999
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C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 17-Mar-2000
C;Accession: A75567
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                                                                                                               A; Cross-references: GB: AE001895; A; Experimental source: strain R1
                                                                                                                                                                                                                                 A; Title: Genome sequence of A; Reference number: A75250;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Cross-references: GB: AE001867; A; Experimental source: strain R1
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A; Residues: 1-157 <WHI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Title: Genome sequence of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        conserved hypothetical protein - Deinococcus radiodurans (strain R1)
C; Species: Deinococcus radiodurans
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A; Residues: 1-157 < YUN>
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A;Status: preliminary; translated from GB/EMBL/DDBJ
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Reference number:
Query Match
Best Local Similarity
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7; Conserv
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100.0%; Pr
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100.0%; Pr
2.5%;
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Score 7; I
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Pred. No.
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T.; Zalewski,
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C.; Ma
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C.; Ma
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A;Cross-references: GB:AE000127; GB:U00096; NID:g1786370; PIDN:AAC73289.1; A;Experimental source: strain K-12, substrain MG1655
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R;Holck, A.; Kleppe, K. Gene 67, 117-124, 1988 and 88 and 58 and 58 and 58 and 58 artitle: Cloning and sequencing of the gene for the DNA-binding 17K protein of Esche A;Reference number: JT0304; MUID:88329735; PMID:2843433 A:Accession: JT0304
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C;Date: 15-Feb-1996 #sequence_revision 01-Mar-1996 #text_change 20-Jun-2000
C;Accession: S59925
                                                                                                                                                   R;Experimental source: strain K-12, substrain MG1655
R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.;
A; Rose, D.J.; Mau, B; Shao, Y.
Science 277, 1453-1462, 1997
                                                                                                                                                                                                                                                                                                                                                             A;Title: Cloning and nucleotide sequence of the firA gene and the firA200(Ts) allele A;Reference number: S13728; MUID:91100302; PMID:1987124
A;Accession: S13728
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A;Title: Classification of rice allergenic protein cDNAs belonging to the alpha-amyl A;Reference number: S59922; MUID:95399441; PMID:7669811
A; Molecule type: DNA
A; Residues: 1-161 <BLAT>
                                                                         A; Title: The complete genome sequence of Escherichia coli K-12. A; Reference number: A64720; MUID:97426617; PMID:9278503 A; Accession: B64742
                                                                                                                                                                                                                                                        A;Molecule type: DNA
A;Residues: 72-161 <DIC>
A;Cross-references: EMBL:X54797; NID:g41468; PIDN:CAA38567.1; PID:g41469
                                                                                                                                                                                                                                                                                                                                                                                                                                              R;Dicker, I.B.; See J. Bacteriol. 173,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Species: Escherichia coli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           outer membrane protein hlpA precursor - Escherichia coli (strain N;Alternate names: DNA-binding 17K protein; histone-like protein
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A; Residues: 1-160 <ALV>
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                                                 A; Status: nucleic acid sequence not shown; translation
                                                                                                                                                                                                                                                                                                                                       A; Status: preliminary
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A; Residues: 1-161 <HO1>
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73, 334-344, 1991
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Pred. No. 76;
0; Mismatches
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PID:g1786

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C;Species: Escilor 1901 #sequence_revision C;Date: 18-Jul-2001 #sequence_revision: D90651 R;Hayashi, T.; Makino, K.; Ohnishi, M.; R;Hayashi, T.; Kuhara, S.;
A; Decuse type: DNA
A; Molecule type: DNA
A; Residues: 1-161 <STO>
A; Cross-references: GB: AE005174; NID: g12512906; PIDN: AAG54480.1; GSPDB: GN00145; UWGP: ZOI
A; Cross-imental source: strain 0157: H7, substrain EDL933
                                                                                                                                                                                                  R:Perna, N.T.; Plunkett III, G.; Burland, V.; Mau, B.; iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimale Nature 409, 529-533, 2001
                                                                                                                                             A;Title: Genome sequence of enterohemorrhagic Escherichia A;Reference number: A85480; MUID:21074935; PMID:11206551 A;Accession: D85502
                                                                                                                                                                                                                                                                hypothetical protein hlpA [imported] - Escherichia C;Species: Escherichia coli C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 C;Accession: D85502
                                                                                                                                                                                                                                                                                                                                                                                                                            ₽
                                                                                                                        A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Gene: ECs0180
C; Superfamily: [
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A;Molecule type: DNA
A;Residues: 1-161 <HAY>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C; Superfamily: DNA-binding 1:
C; Keywords: membrane protein
F; 1-20/Domain: air.
                                                                                                                                                                                                                                                                                                                                                  D85502
                                                                                                                                                                                                                                                                                                                                                                    RESULT 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: GB:BA000007; PIDN:BAB33603.1; PID:913359636; GSPDB:GN00154
A;Experimental source: strain 0157:H7, substrain RIMD 0509952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA Res. 8, 11-22, 2001
A;Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7
A;Reference number: A99629; MUID:21156231; PMID:11258796
A;Accession: D90651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    histone-11ke protein HlpA [imported] - Escherichia coli (strain 0157:H7, substrain C;Species: Escherichia coli C;Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 03-Aug-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Molecule type: DNA
A;Residues: 1-14,'L',16-148,'E',150-152,'I',154-161 <RES>
A;Cross-references: EMBL:X75465; NID:9432661; PIDN:CAA53207.1; PID:9432662
C;Comment: The hlpA protein has been believed to be a histone-like constitu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Title: The ompH gene of versinia enterocolitica: cloning, sequencing, expression, A;Reference number: I54944; MUID:91123198; PMID:1991717 A;Accession: I54944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 F;21-161/Product:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R;Hirvas, L.; Koski, P.; Vaara, M.
J. Bacteriol. 173, 1223-1229, 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Status: translated from GB/EMBL/DDBJ
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Best Local
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21-161/Product: outer membrane protein hlpA #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                62 GLGLALA 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity es 7; Conserver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62 GLGLALA 68
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Mismatches
                                                                                                                                                                                                                                                                                                               Escherichia coli (strain 0157:H7, substrain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kurokawa, K.;
Shiba, T.; Ha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2;
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o. 76;
                                                                                                                                                                                                                     Dimalanta,
                                                                                                                                                                                                                                                                            #text_change 14-Sep-2001
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lanta, E.;
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ttori, M.; Shinagawa, H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
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A; Note: orf424
C; Superfamily:
                                                                                                                                          A; Molecule type: DNA
A; Residues: 1-162 < ROM>
                                                                                                                                                                                                           A;Description: Complete sequence A;Reference number: Z20992
                                                                                                                                                                                                                                                                                       hypothetical protein 424 - Sphingomonas aromaticivorans plasmid pNL1 C;Species: Sphingomonas aromaticivorans C;Date: 11-Jan-2000 #sequence_revision 11-Jan-2000 #text_change 09-Jun-2000
                                                                                           A; Genome:
                                                                                                           C; Genetics:
                                                                                                                          A; Cross-references:
                                                                                                                                                                                             A; Reference number: A; Accession: T31173
                                                                                                                                                                                                                                             submitted to the EMBL Data Library,
                                                                                                                                                                                                                                                                  R; Romine,
                                                                                                                                                                          A; Status: preliminary; translated from GB/EMBL/DDBJ
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A; Introns: 16/3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Cross-references: EMBL:Z66516;
A;Experimental source: clone W03
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Reference number: Z20155
A;Accession: T26123
A;Status: preliminary; translated from GB/EMBL/DDBJ
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Best Local Similarity
"---hes 7; Conserv
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                                                                                                                                                                                                                                                                                                                                                                  RESULT 45
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       submitted to the EMBL Data Library, July 1995 A; Reference number: Z19957
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T24937
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A;Gene: hlpA
C;Superfamily: DNA:binding 17K protein
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-162 <WI2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Cross-references: EMBL:Z50015; PIDN:CAA90314.1; GSPDB:GN00020; CESP:W03C9.
A;Experimental source: clone T15G9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Residues:
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C;Accession: T24937; T26123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           hypothetical protein W03C9.4 - Caenorhabditis elegans
       Query Match
Best Local Similarity
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Best Local
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                                                                                                                                                                                                                                                                X.F.
                                                                                           plasmid
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                                                      Sphingomonas aromaticivorans hypothetical protein 424
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he EMBL Data I
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llarity 100.0%;
Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120/3; 128/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     clone W03C9
        2.5%;
                                                                                                                                                                                                                         L.C.; Wong, K.K.; Thurston,
Library, July 1998
quence of a 184 kb catabolic
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       Score 7
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Pred. No.
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بة 7;
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77;
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                                                                                                                                                                                                                         catabolic plasmid from Sphingomonas
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
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	Search completed: May 8, 2003, Job time : 50 secs	Matches 7; Conservative Qy 138 ARRAIAA 144 Db 28 ARRAIAA 34
	8, 2003, 07:07:55	0; Mismatches
•		0;
		Indels
•		0,
		Gaps
		0;
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From: Sent: To: Subject:

Chan, Christina

Monday, May 05, 2003 3:41 PM

Schnizer, Richard; STIC-Biotech/ChemLib

RE: 09/245,198

Please rush. Thanks Chris

Chris Chan TC 1600 New Hire Training Coordinator and SPE 1644 308-3973 CM-1, 9B19

> ----Original Message-----From: Schnizer, Richard

Sent: Monday, May 05, 2003 3:21 PM

To: Chan, Christina

Subject: 09/245,198

Please authorize the following RUSH search for 09/245,198 which is an amended case in condition for allowance.

Please search the commercial and interference databases for:

-SEQ ID NOS:1-4, and

-nucleic acids that could encode the amino acid sequences of SEQ ID NOS:2 and 4

Please perform oligo searches on SEQ ID NOS: 3 and 4.

Thank you-

Richard Schnizer, Ph.D.
Patent Examiner
Anti-Unit 1635
CM1*12E17
703-306-5441
Mail Box CM1 11E12

RECEIVED

HAY -5 2003

ECHICHEM DIVISION
(STIC)

Point of Contact: Thomas G. Larson, Ph.D. 703-308-7309 CM1, Rm. 6 B 01

Searcher:

Phone:
Location:
Date Picked Up: 5/6

Date Completed: 5//2
Searcher Prep/Review: 10

Clerical: /b

TYPE OF SEARCH:

NA Sequences: 3

AA Sequences: 2

Structures: Bibliographic: Litigation: 3

Full text:_______
Patent Family:______
Other:

VENDOR/COST (where applic.)

Sequence Sys.:

WWW/Internet:
Other (specify):

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